HOW WE LEARNED TO STOP WORRYING AND (ALMOST) LOVE DEBT REDEMPTION

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Outline

- Debate: risk reduction *versus* risk sharing

- A Sovereign Debt Restructuring Mechanism for the euro area: motivation, possible design, limits

- A Redemption Fund for the euro area: a way to address debt legacy problems

- Fundamental features of an effective Redemption Fund for the euro area

- A Redemption Fund for the euro area: a transfer-free approach

- Concluding remarks

Risk sharing or risk reduction

Improving economic conditions create a window of opportunity for a new round of economic reforms in EMU. Which direction?

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- **Arguments for sharing (some) fiscal risks**

    - Legacy debt is rather high: a solidarity approach can better shield the euro area from new sovereign debt crisis

    - Lesson from the crisis: fiscal rules alone do not fully accommodate for exceptional circumstances (fiscal expansion not allowed)

    - Idiosyncratic shocks cannot be absorbed via exchange rate manipulation

    - No lender of last resort

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- **Arguments for reducing fiscal risks**

    - Ineffectiveness of fiscal rules

    - Lack of credibility of the no-bail-out clause

    - Debt overhang impairs growth and threatens the existence of EMU itself (lessons from the past)

An SDRM for the euro area: motivation

EX ANTE

- Provide an orderly and transparent sovereign default procedure, thus reducing default costs related to uncertainty and strengthening credibility of no-bailout clause;

- Provide markets with the right incentives to properly assess sovereign risk and to price the sovereign bond yield accordingly

➢ **Strengthen market-driven fiscal discipline**

EX POST

- Reduce procrastination (*gambling for resurrection*) of debtor country

- Address creditors coordination issues (*holdout problem*)

- Downsize the bargaining power of the debtor country in obtaining a bail-out at the expense of other countries: *"Debtors' main negotiating asset is the threat of a disorderly default" (*Gros and Meyer, 2010)

An SDRM for the euro area: design

Pre-conditions for a well-functioning SDRM:

- If any, SDRM should be costly enough to minimize moral hazard and incentivize debtors to honor their obligations

- But not too costly, if one wants to preserve its credibility

- A degree of discretion about when initiating debt restructuring preferred over automatic triggers because:

  o automatic thresholds may ignite self-fulfilling crises when debt level gets close

  o risks of transforming a liquidity crisis into a solvency crisis (thus increasing associated costs tremendously)

  o it is impossible to forecast ex ante all possible contingencies that can arise in a crisis

An SDRM for the euro area: limits and way out

Limits:

- **SDRM** can induce debt panic in countries with debt overhang problem despite sustainable public finance

- **SDRM does not resolve the issue of too-big-to-fail sovereigns:**

  - due to the high financial and economic integration in EMU even small countries pose systemic threats (see the case of Greece)

  - SDRM would suffer the same credibility deficit as the no-bail-out clause

ERF: a way to address debt legacy problems

A debt redemption fund is in principle implementable at national level by earmarking stream of resources...

...but a scheme at the euro area level have some advantages:

- International commitment constrains national governments' intertemporal inconsistency and electoral cycle considerations

- Interest spending savings for fiscally weak countries because of high creditworthiness of a euro-area collateralized fund

- Complemented with measures that prevent fiscally weak countries to indulge again in fiscal profligacy

ERF: a way to address debt legacy problems

Several proposals on the table. Points in common:

- Transfer to a common fund of a quota of sovereign debt: >60% of GDP (GCEE, 2011; Parello and Visco, 2012); >90-95% of GDP (Corsetti et al., 2015); half of the EA (Paris and Wyplosz, 2014);

- Pooled debt redeemed within specific time span: 20-25 y (GCEE, 2011; Doluca et al., 2013); 30 y (Parello and Visco, 2012); 50 y (Corsetti et al., 2015)

- Earmarked stream of resources: VAT, wealth tax, seignioraige

- Explicit (Corsetti et al., 2015) or implicit fiscal transfers across countries

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Other characteristics:

- Automatic national debt brakes and collateral (GCEE, 2011; Paris and Wyplosz, 2014);

- New ESM lending framework and new bank exposure regulation (Corsetti et al., 2015)

- ECB swaps national debt into zero-coupon perpetuities and recoups costs by reducing future seignioraige revenues to countries (Paris and Wyplosz, 2014)

Fundamental features of an effective ERF

In order to address the high debt legacy problem, a European Redemption Fund should have some **necessary features**:

Debt redemption is the ultimate goal

No discretionary fiscal policy can increase mutualized debt

- ERF becomes responsible for mutualized debt: ERF rolls-over expiring bonds (keeping maturity structure fixed). Redemption happens when ERF runs surpluses. When it occasionally runs deficits, ERF might issue new debt

- **the length of the redemption phase is endogenous** (differently from previous proposals): it depends on assumptions in terms of annual payments by countries and of the interest-growth differential.

- **The length of the redemption phase is not pivotal**: we expect that mutualized debt does not (substantially) jeopardize euro area financial stability and countries fiscal sustainability. Anyway, the debt-to-GDP ratio tends to zero over time.

Fundamental features of an effective ERF (1)

SIZE: ERF should pool a significant share of national debts

- Pooled debt must be a relevant chunk of sovereign debt to solve debt overhang

  - **Countries transfer to ERF** a fraction of **public debt worth 60% of their GDP** at the end of 2018

  - ERF responsible for an initial level of debt in line with Maastricht treaty

  - **High** (low) **debt countries allowed to transfer more** (less) so to be left with a debt below Maastricht threshold

At the start of the scheme countries instantaneously transfer sovereign debts to ERF

- It avoids possible financial tensions that a gradual buy-back may entail

- **Legal implementation** of this operation may recur to alternative solutions

Fundamental features of an effective ERF (2)

A Solidarity approach should be followed

- Countries should provide joint and unlimited guarantees to all liabilities of ERF

- Countries should annually transfer a stream of resources to ERF in a fixed % of GDP (countercyclical design)

- This is the implicit interest rate paid on the pro-quota mutualized debt

Fundamental features of an effective ERF (2)

A Solidarity approach should be followed

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But incentives are not to be distorted

- Annual transfers could be modulated according to a scheme of penalization/allowance for high-debt and low-debt countries (*flexibility in solidarity*)

- Annual transfers may be modulated to account for structural cross-country differential in economic growth

- Debt redemption scheme can be calibrated to **minimize cross-country redistributive financial effects**
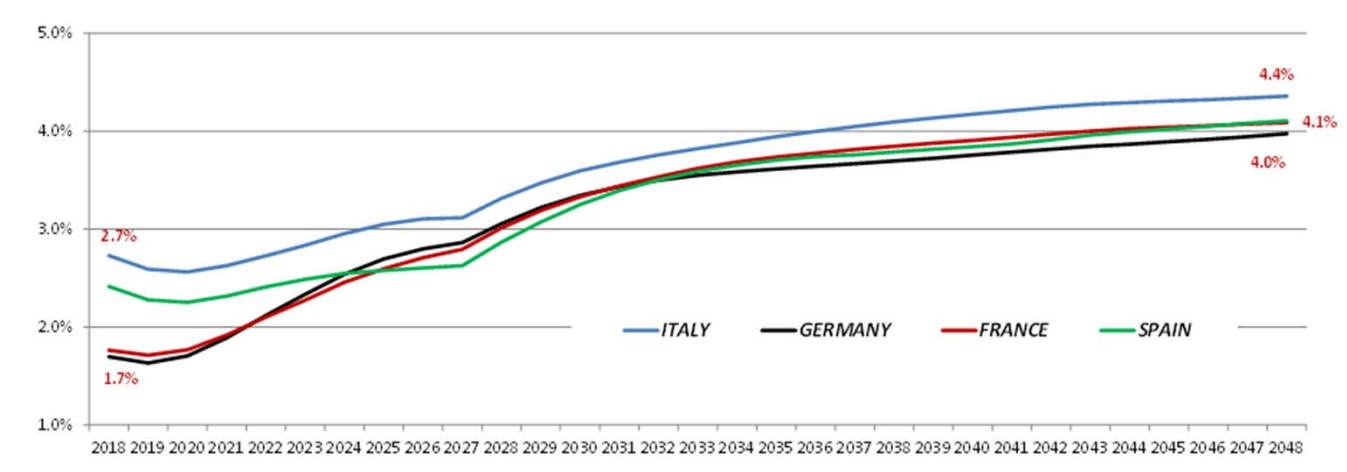
An example of a transfer-free ERF: Calibration

Basic idea: *No-ERF baseline* versus *ERF-baseline* scenario for IT, DE, ES, FR

No-ERF baseline scenario. Assumptions:

- EC Forecast for 2017-18 fiscal and macro developments. From 2019:

- Primary balance annually increases by 0.5% of GDP, in line with the preventive arm of SGP, until reaching the balanced budget, then maintained

- Countries annually grow at 3.5% (1.5% real growth+2% GDP deflator)

- Countries interest bill reflects the current interest rate at issuance, the maturity structure and a gradual increase in ECB monetary policy rates

- Simulations cover a 30-year period: 2019-2048

Projected average cost of debt 2018-2048

An example of a transfer-free ERF: Calibration

ERF-baseline scenario **should minimizes cross-country transfers**.

- Countries instantaneously transfer 60% of GDP in public debt. Italy transfers 70% and Germany transfers 50%

- GDP-linked annual transfer: 1.2% of GDP (=> implicit interest rate=2%). Germany's transfer: 1% of GDP (allowance not to increase implicit interest); Italy's transfer: 1.7% (penalty to increase by 0.5 p.p. the implicit interest rate)

- Interest rate paid on ERF's debt initially set at the weighted average of rate paid on national sovereign debts (ERF's debt reflects their current maturity structure)

- **Interest rate on ERF's new issuances** set at the weighted average as well. It is a crucial parameter (main driver of countries' gains/losses) difficult to forecast (it depends on perceived ERF's riskiness)

Indicators of financial effects from the introduction of ERF:

- For countries: **NPV of interest expenditure saving** (w.r.t. No-ERF baseline) over the period 2019-2028 (in % of 2019 national GDP)

- **For ERF: NPV of budget balance** (transfers from countries – interests paid on ERF's debt) over the period 2019-2028 (in % of 2019 total GDP)

An example of a transfer-free ERF: Calibration

Projected baseline debt dynamics with and without ERF (2018-2048)
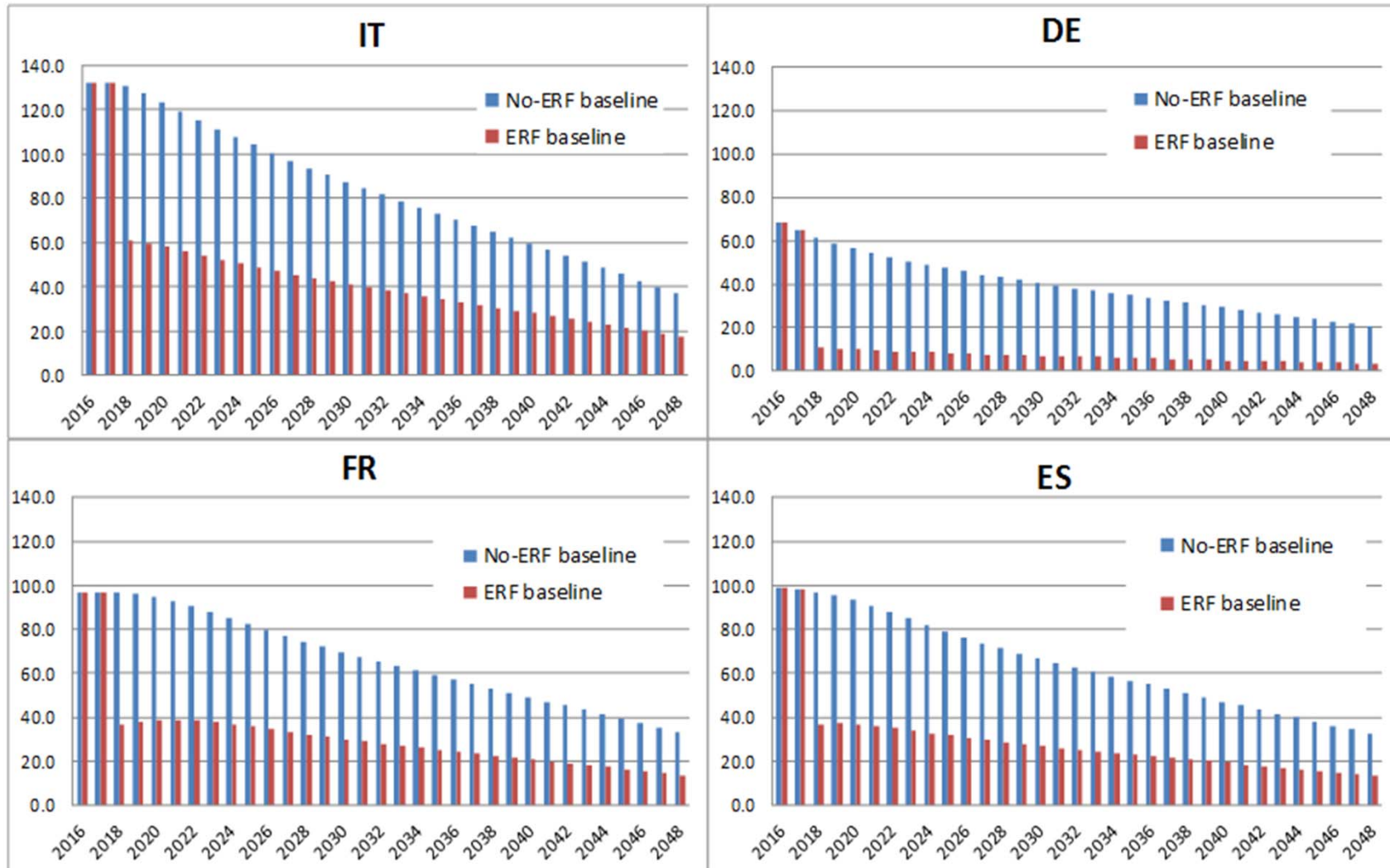
An example of a transfer-free ERF: results in the ERF-Baseline scenario

Gains (+) / Losses (-) in NPV of interest spending over 10 years *(as % of country's GDP)*

ERF-Baseline *versus* No-ERF Baseline					
Italy	Germany	France	Spain	ERF (surplus)	Total
-0.0	0.1	-0.1	1.0	-0.0	0.1

- **NO redistributive financial effects from introduction of ERF**

Spain and France have the same debt level (=> same annual transfer)

but different starting cost of debt => gains cannot be simultaneously zero
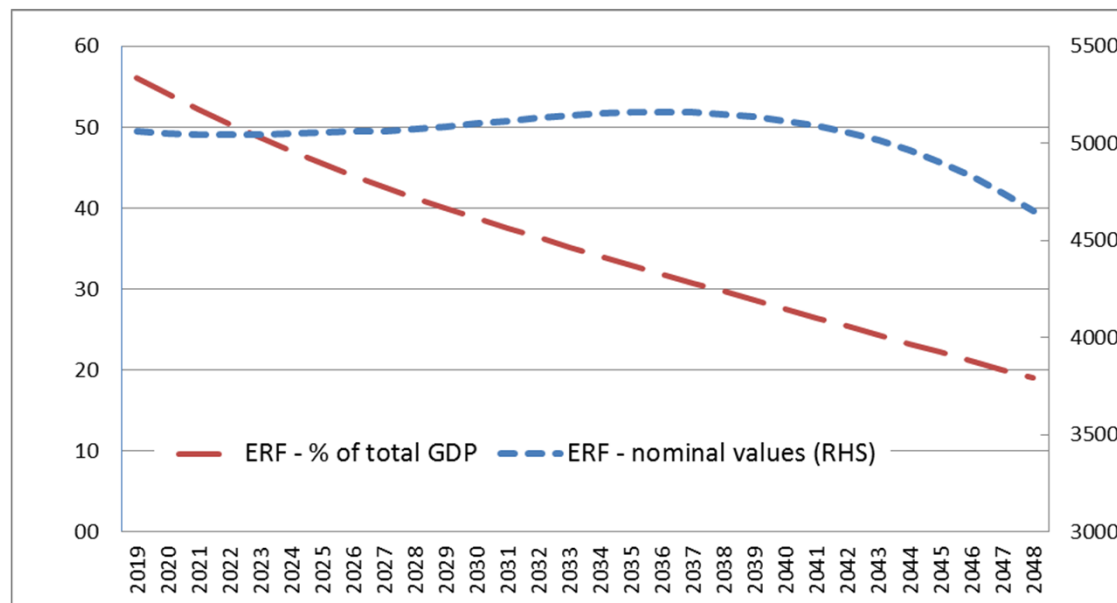
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In this example, Spain and France have the same debt level (=> same annual transfer) but different starting cost of debt => gains cannot be simultaneously zero

Projected dynamics of ERF debt in the ERF-baseline scenario (2018-2048)

Robustness analysis

Is it possible to design a transfer-free ERF with alternative (but plausible) **assumptions for the baseline** (both no-ERF and ERF-baseline) **scenario?**

- **On growth**:

  - **lower growth (-0.5%) in all countries:** countries are marginally better off because of lower nominal annual transfers *(countercyclicality) and* ERF incurs a small loss *(it can be redressed with marginal increase in annual transfers)*

  - **lower growth (-0.5%) in Italy** (marginal increase in penalty to minimize transfers)

- **On ERF issuance interest rate**:

  - **same as Germany's**, if market's positive assessment of the effectiveness of the scheme in reducing to non systemic threats posed by countries *(optimistic scenario, no required change in calibration)*

  - **same as Italy's**, *"the riskier country with a debt large enough to dampen the creditworthiness of the least risky country"* (Balassone et al, 2012) *(marginal increase in annual transfer required to minimize redistribution)*

Robustness analysis

Is it possible to design a transfer-free ERF with alternative (but plausible) **assumptions for the baseline** (both no-ERF and ERF-baseline) **scenario?**

Gains (+) / Losses (-) in NPV of interest spending over 10 years *(as % of country's GDP)*

|	Baseline	Lower growth (-0.5%)	Lower growth only in Italy	ERF interest rate as Germany	ERF interest rate as Italy
	(1)	(2)	(3)	(4)	(5)
Italy	-0.0	0.5	0.3	-0.0	-0.0
Germany	0.1	0.3	0.1	0.1	0.1
France	-0.1	0.2	-0.1	-0.1	-0.1
Spain	1.0	1.3	1.0	1.0	1.0
ERF (surplus)	-0.0	-0.4	-0.1	0.3	-1.0
Total	0.1	0.1	0.1	0.5	-0.9

Cross-country redistribution can be minimized

.... But…

Robustness analysis

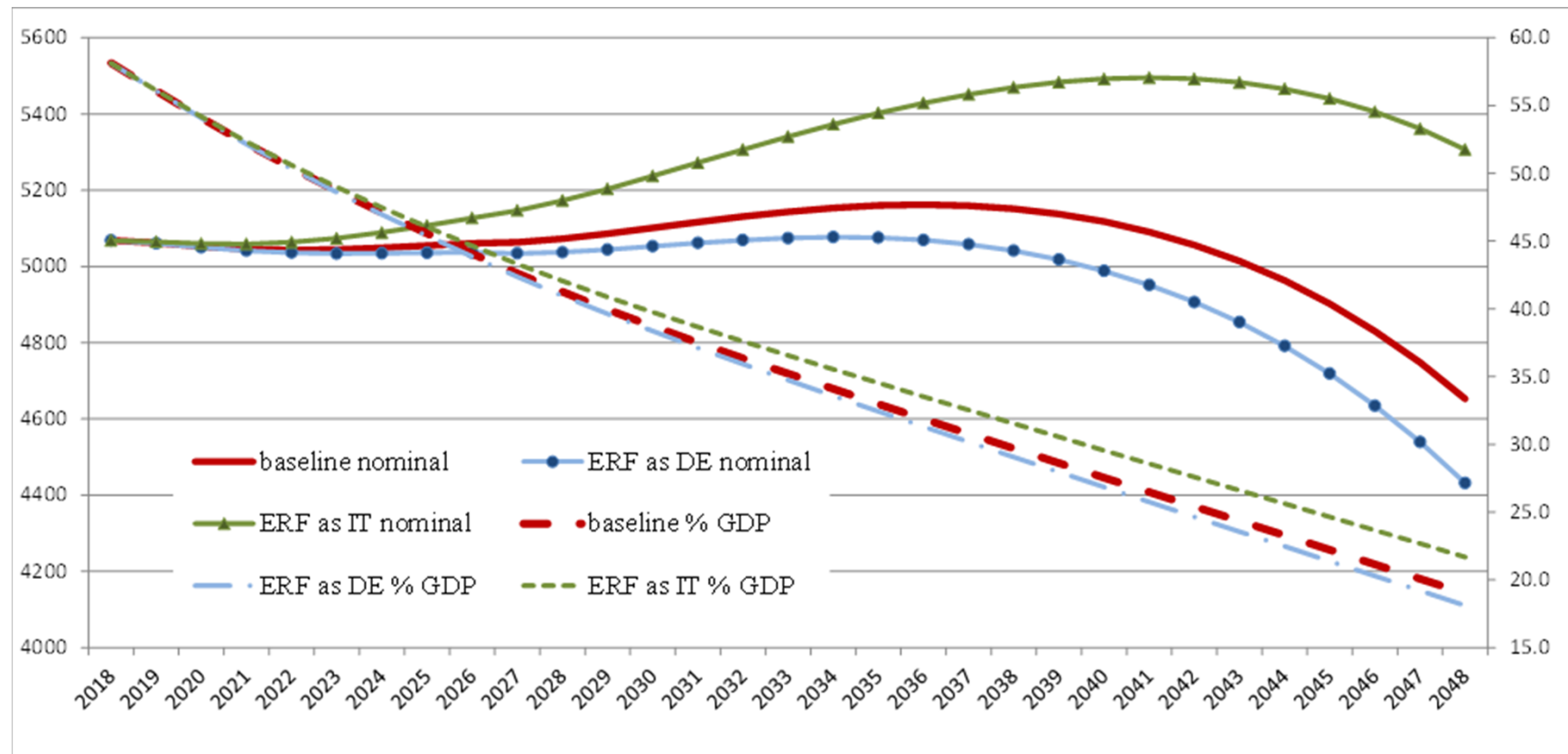**….debt dynamic depends on the alternative assumptions: on growth**

Debt dynamics: ERF-baseline scenario (left) and Lower growth scenario (right)
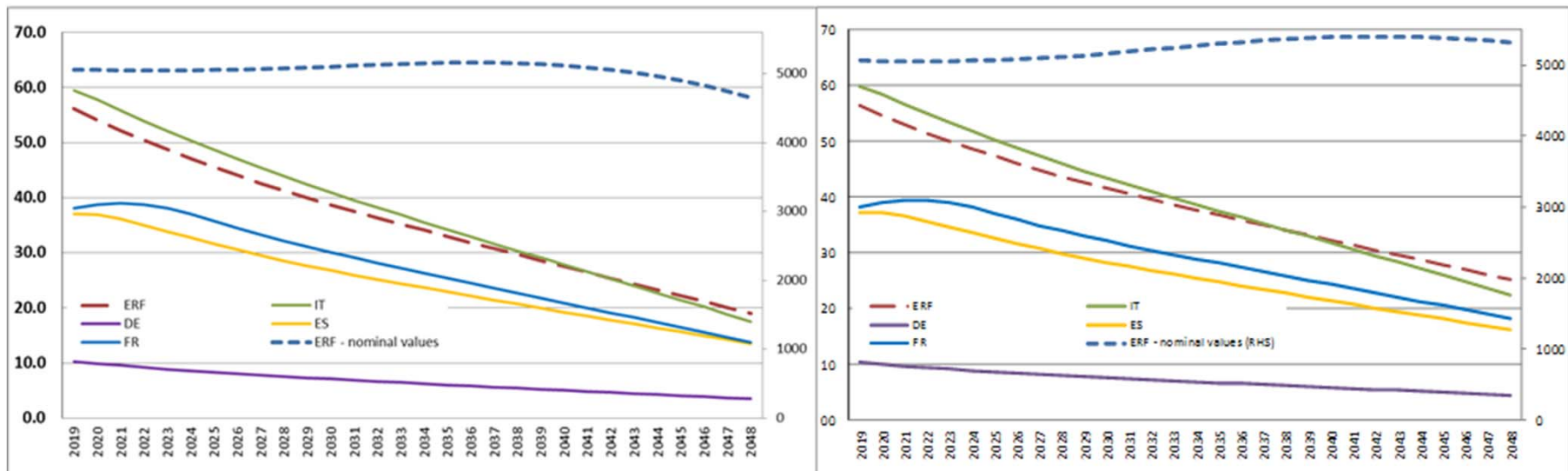
Robustness analysis

….debt dynamic depends on the alternative assumptions:
on ERF's issuance interest rate

Dynamics of ERF's debt under alternative hypotheses on issuance rate

Sensitivity analysis

What happens if, due to setup of ERF (over the first ten years and w.r.t. ERF baseline):

- ***ERF down (-1%)*** *scenario*: interest rate on ERF's debt is reduced by 1 p.p. thanks to "favorable" market assessment of riskiness of ERF.

- ***Countries up (+1%)*** *scenario:* adverse market perception of the national tranches (with the exception of Germany) because no-bail-out clause is more binding (no systemic threats any longer) and because of lower liquidity.

- ***ERF down (-1%) countries up (+1%)*** *scenario*: "fly to quality", from risky national debt to "riskless" jointly guaranteed centralized debt.

A transfer-free ERF: sensitivity analysis

- A change by 100 b.p. in the average interest rate of ERF generates loss/gain for the area of 5% of total GDP (0.5% each year) with **no redistribution but slower/faster ERF debt reduction** ➡️

- A change by 100 b.p. in the average interest rate of all countries (but Germany) generates loss/gain for the area of 2.5% of total GDP **with redistribution but same debt dynamics** (higher interest bill compensated by higher primary balance)

Gains (+) / Losses (-) in NPV of interest spending over 10 years *(as % of country's GDP)*

|	ERF-Baseline	ERF down (1%)	ERF unchanged + Countries up (1%)	ERF down (1%) + Countries up (1%)
	(1)	(2)	(3)	(4)
Italy	-0.0	-0.0	-5.3	-5.3
Germany	0.1	0.1	0.1	0.1
France	-0.1	-0.1	-4.2	-4.2
Spain	1.0	1.0	-2.5	-2.5
ERF (surplus)	-0.0	5.0	-0.0	5.0
Total	0.12	5.2	-2.5	2.5

Concluding remarks

- **ERF is a candidate** to lead a smooth transition towards a low-debt equilibrium with no systemic risks to EMU. WHY?

- **ERF** can be designed so as to **minimize cross-country redistributive financial effects**. Calibration may be periodically (10 years?) reviewd.

- **Negative shocks** to interest spending or growth have limited impact and **can be easily accomodated with marginal changes** in the calibration of the scheme

ERF may be a win-win scheme: high-debt countries are sheltered from sudden swings in market sentiments; low-debt countries benefit from the strengthened financial stability of EMU

Concluding remarks

Open issue: how to deal with the moral hazard problem?

Runs on sovereign

SDRM?
Fiscal rules?
Rewards for
disciplined countries?

ERF

Moral hazard
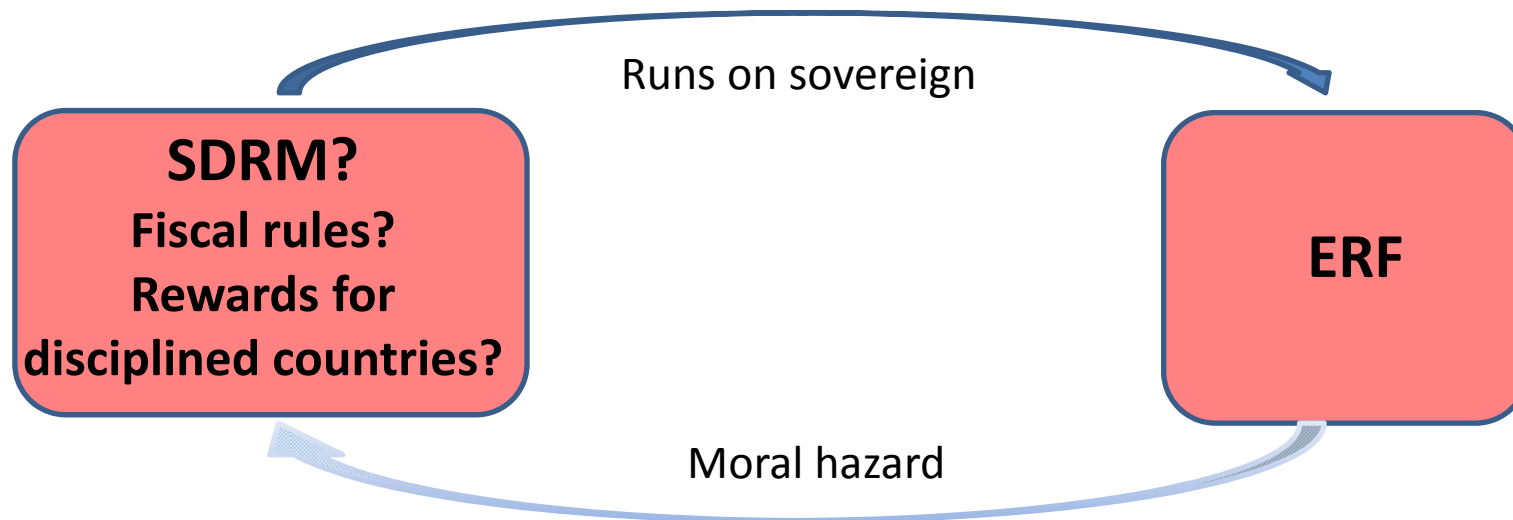
Warning: entirely relying on market forces to guarantee fiscal discipline may be ineffective, if not harmful

«the contraints imposed by market forces might either be too slow and weak or too sudden and disruptive» (Delors Committee report)
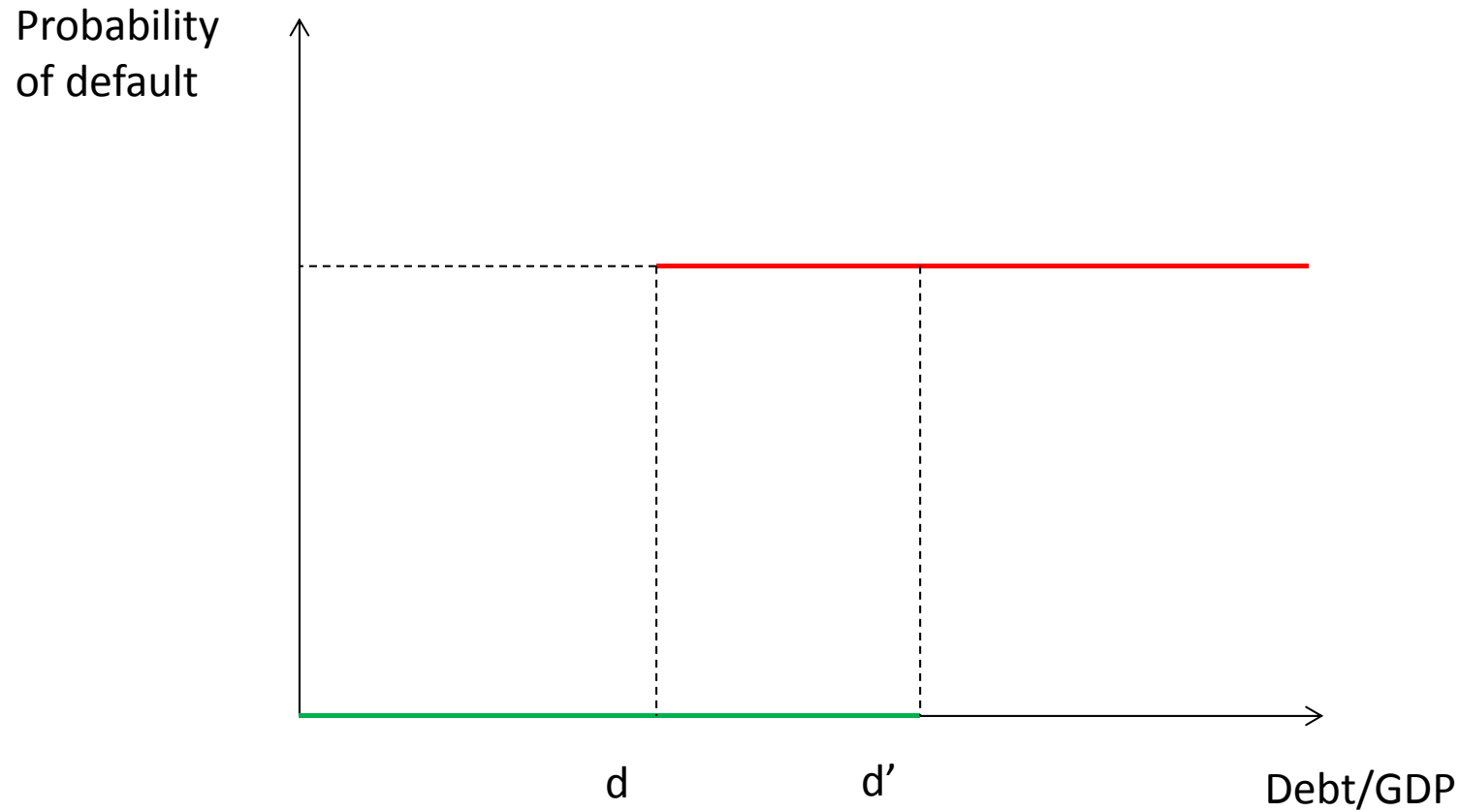
Thank you for your attention!

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SDRM: a tale of multiple equilibria

Probability of default (y-axis) vs Debt/GDP (x-axis), with points d and d' marked.

Good equilibrium — Green

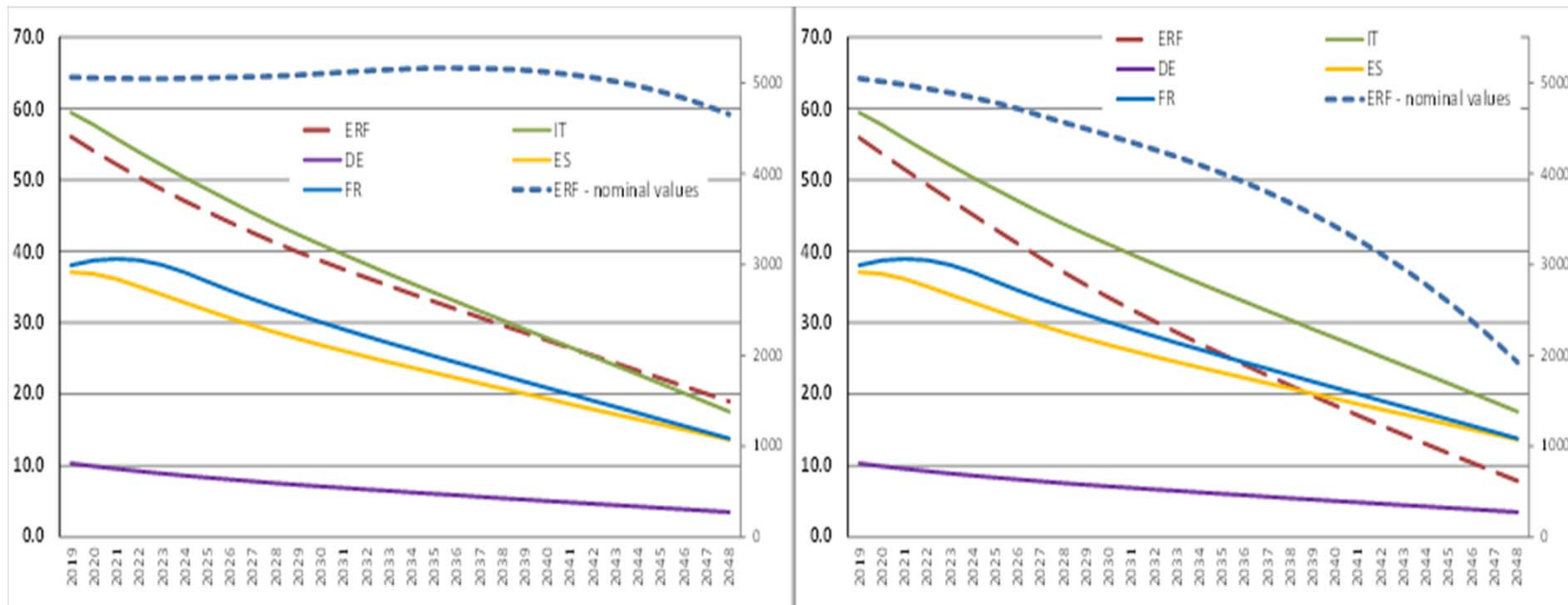Bad equilibrium — Red

Sensitivity analysis

Debt dynamics: ERF-baseline scenario (left) and Erf down (-1%) scenario (right)

An SDRM for the euro area: design

A taxonomy of recent SDRM proposals:

	Contract-based approach	Eclectic approach	Statutory approach
Discretion: High			Gianviti et al. (2010)
Discretion: Medium		Fuest et al. (2016) Bénassy-Quéré et al. (2018)	CIEPB (2013) Corsetti et al. (2015) Corsetti et al. (2016) EEAG(2011)
Discretion: Low	Weber et al. (2011) Deutsche Bundesbank (2016) Mody (2013)	Andritsky et al. (2016)	

ERF: legal implementation

Two alternative ways to implement the transfer of sovereign debt instruments

1. **Each single bond is replaced by two bonds** (whose values are a fraction of the initial value). In one of the two new bonds sovereign is replaced by ERF as debtor

   No bondholder should have incentive in opting out because ERF's bond is jointly and unlimitedly guaranteed by resources of all participating countries (although those resources also guarantee the remaining national tranche)

2. **ERF unilaterally commits to paying pro-quota interests** on each bond **and to offering pro-quota full guarantees**

   The sovereign remains formal debtor but a quota of the existing bond benefits from stronger guarantees.

ERF: a "neutral" calibration

- Individual country's gain/loss in terms of NPV of 2019-2028 interest expenditure (including transfers to ERF)

$$A = \sum_{t=1}^{T} \frac{r_t + E_t}{(1+i)^t} - \sum_{t=1}^{T} \frac{r\prime_t}{(1+i)^t}$$

- NPV of 2019-2028 ERF budget balance

$$B = \sum_{t=1}^{T} \frac{r_{erf_t}}{(1+i)^t} - \sum_{t=1}^{T} \frac{\sum_{n=1}^{N} E_{tn}}{(1+i)^t}$$

- Total economy gain/loss

$$\sum_{n=1}^{N} A_n + B = \sum_{t=1}^{T} \frac{r_t - r\prime_t}{(1+i)^t} + \sum_{t=1}^{T} \frac{r_{erf_t}}{(1+i)^t}$$

An SDRM for the euro area: design

Pre-conditions for a well-functioning SDRM:

- **Statutory approach preferred** over contractual one (CACs) to reduce litigation risks: international institutions and rules help better internalize cross-country externalities

- **Ex post creditor coordination problems not very relevant in EMU** because debt mostly issued under domestic law and held by domestic investors

- **A degree of discretion** about when initiating debt restructuring **preferred over automatic triggers** because:

  - automatic thresholds may ignite self-fulfilling crises when debt level gets close to them

  - Discretion is necessary because it is impossible to forecast ex ante all possible contingencies that can arise in a crises

Debt redemption proposals

	Size of the mutualized tranche	Time horizon	Resources paid to the Fund	Unconditional collateral	Other enforcing tools
German Council of Economic Experts (2011)	debt exceeding 60% of GDP	20-25 years	constant fraction of GDP (mark-up on a national tax, e.g. VAT and/or income tax)	pledge on part of national currency reserves (foreign currency or gold reserves) – overall 20% of the loans provided by the ERF would need to be guaranteed	- national debt brakes - medium-term consolidation and growth strategy. If not respected, "roll-in" immediately discontinued
Parello and Visco (2012)	debt exceeding 60% of GDP	30 years			
Paris and Wyplosz (2014)	half of the Eurozone public debt (distributed among countries on the basis of the ECB capital keys)	infinite horizon	*de facto* (part of) seigniorage		- automatic call of perpetuities back into reimbursement in case the remaining national debt to GDP ratio exceeds a given threshold - national debt brakes
Corsetti et al. (2015)	debt exceeding 90-95% of GDP	50 years	VAT, solidarity surcharge, wealth tax or seigniorage		- reforming the ESM lending regime so to design a debt restructuring mechanism - regulatory changes that limit the exposure of banks to sovereign debt