Bank Restructuring without Government Intervention: A Solution to the NPL problem

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Based on joint work with **M.Lucchetta and B. Parigi**

Motivation

- Non Performing Loans (NPLs) have become a serious issue for the European Banking Sector.
- A recent EBA study (2018) found a total amount of **€ 800 billion**, i.e. **4% of gross loans** (compared with 1.5% in US or Japan).
- They affect not only Greece and Cyprus but also other countries like Portugal and Italy.

Non Performing Loans in the EU

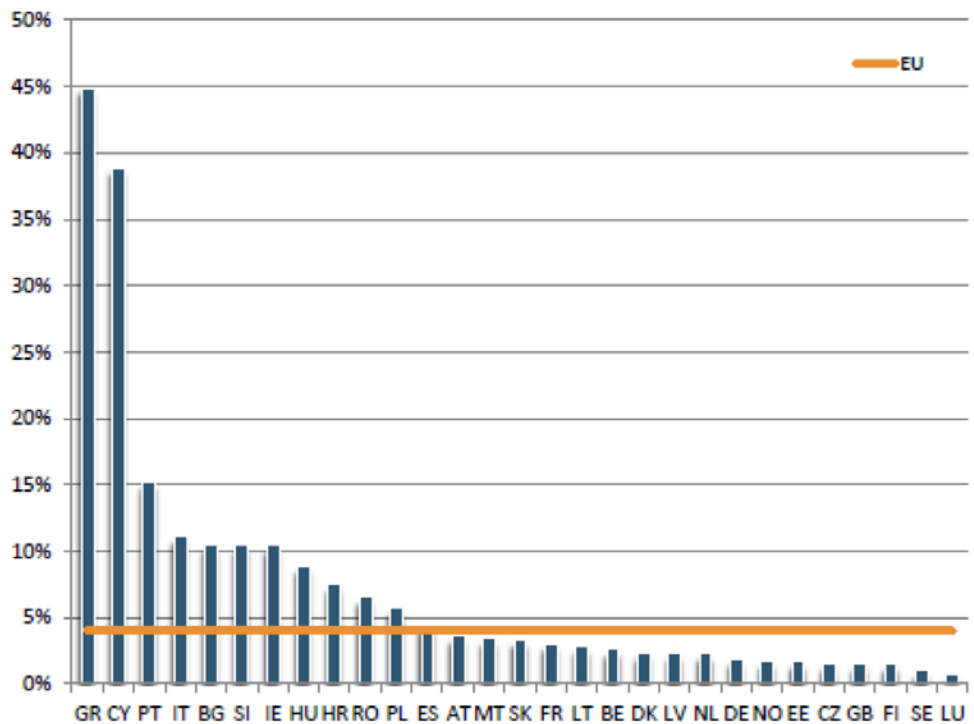
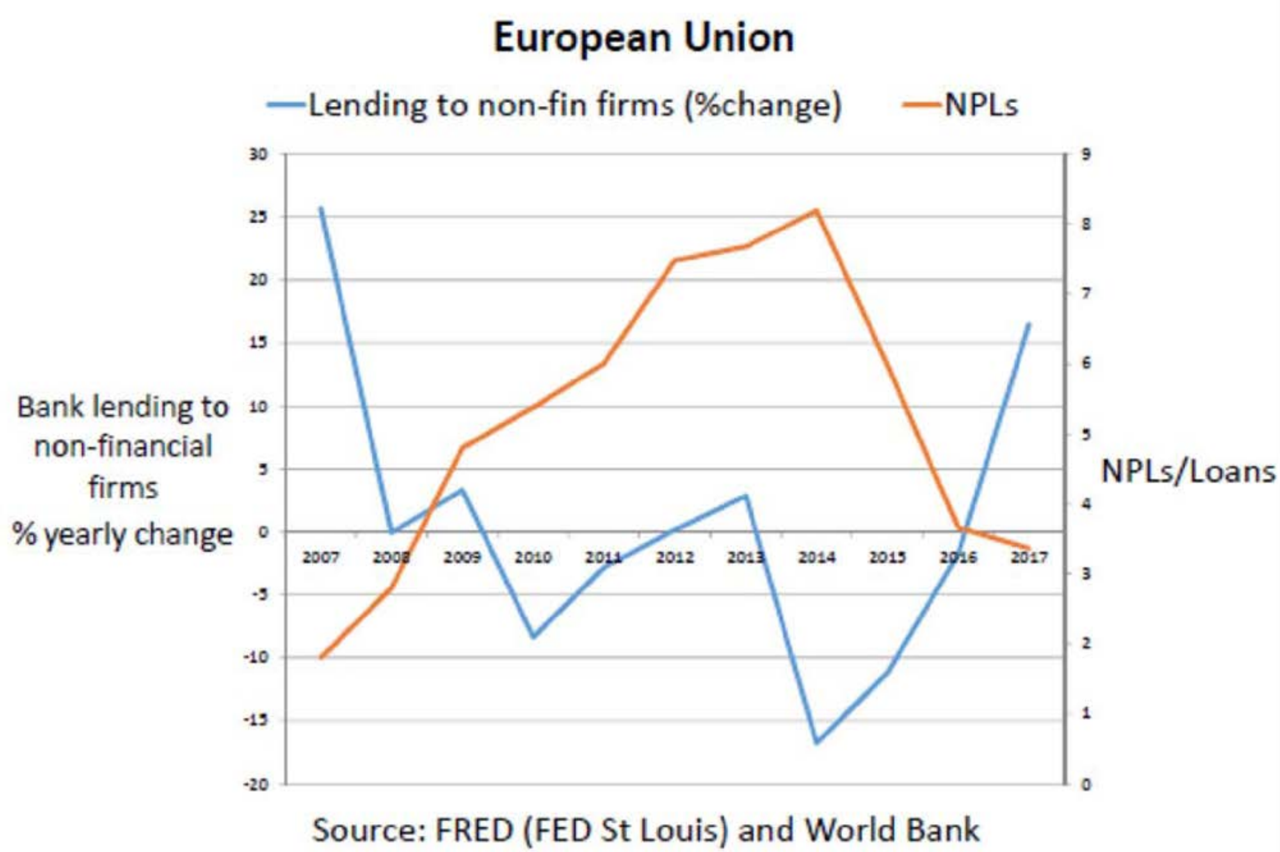


Figure 1: NPL ratios. Weighted averages by country. Source: EBA (2018) Risk Dashboard as of Q4 2017.

Too many NPLs may cause a credit crunch



Possible Solutions

- Recapitalization of banks.
- Government guarantees of banks’ liabilities.
- Asset purchases programs (TARP in the US)
- Removal of NPLs from bank balance sheet **=> Bad Bank (BB)**.

Our proposal: a new type of BB

- Bad Banks (BB) are corporate structures designed to ring fence the high risk assets held by a bank.
- BBs are often organized and funded by public authorities.
- We investigate the viability of a type of BB that needs **no injection of public funds.**

A Different Type of BB

- Our BB is in the spirit of the bail-ins required by the BRRD and Dodd Frank in the US, i.e. imposing losses on legacy debtholders and not using public funds.
- Such privately funded BB have existed in the past (Mellon 1988) but they are rare.

A Simple Model (date 0)

Legacy Loan 1	Retail deposits d
	Debt 1+S-d-E
Securities S	Equity E

A Simple Model (date 1)

- At t=1, **banker privately observes a signal $\tilde{a}_0$** on the quality of the legacy loan.
- The final pay off (at t=2) of the first loan is

$$1+\tilde{a}_0 - \tilde{\varepsilon}$$

- After observing a_0 the bank decides whether or not to invest 1 unit in another loan that returns

$$1+ a_1 + \tilde{\varepsilon}$$

Under-investment: bank may pass positive NPV investment

Proposition

1. *Under-investment occurs if and only if the Loss Absorbing Capacity of the bank is low.*

2. This happens if and only if the signal on the value of the legacy loan is low.

Interpretation: Under Investment (UI) occurs when the ratio of NPLs is too high.

We examine our splitting the bank may eliminate UI

The main idea behind the split

Main reasons behind UI:

- Separate financing of new loan is too costly.
- Default option valuable for bank.

The split can address these two issues as follow:

- GB receives a subsidy ***P*** from the BB for financing new loan and managing insured deposits.
- This subsidy is financed by new debt issuance by the BB.
- BB writes down existing debt (haircut ***H***) to keep its shareholder value constant .

UI is eliminated without public intervention.

Breaking up the bank in BB and GB

Balance sheets at t=2

Good Bank

A	L
$1 + a_1 + \tilde{\varepsilon}$	$D_1^A = 1 - E_{GB}$
S	d
P	$\tilde{\varepsilon} + \varepsilon_M$

At t=1 raises equity E_{GB}

At t=1 raises risk-free debt

At t=1 P to GB as settlement for bank split

Bad Bank

A	L
$1 + a_0 - \tilde{\varepsilon}$	P
	$\min(D_{BB}, 1 + a_0 - \tilde{\varepsilon} - P)$
	$\max(0, 1 + a_0 - \tilde{\varepsilon} - P - D_{BB})$

At t=1 raises senior risk-free debt with face value max (0, $\hat{D}$)

Subordinated;
$\leq D_0^A$; write down

Alternative Solutions

- **A Special Purpose Entity** could be created to finance the new loans separately but this typically requires some form of public subsidy: in our plan the subsidy to the GB is self-financed by the bank in exchange for a haircut on legacy debt.
- **Project Finance or Covered Bonds** are a way to ring fence the new assets but they do not eliminate the debt overhang problem.

Alternative Solutions (2)

- **Coco bonds** are a way to increase the LAC of a bank but conversion is triggered by some contractible event, whereas we allow the bank to use its private information in a discretionary way.
- **Recovery and resolution plans** are initiated by regulators and often involve public funds while our plan does not necessitate any public intervention.

Welfare analysis

- Requiring the bank to issue bail-inable debt that is triggered when a BB is created reduces shareholder value (cost of financing increases)
- However, new loans benefit entrepreneurs.
- Moreover deposits are transferred to the safer GB, which reduces deposit insurance cost for the government.
- The net impact on welfare is likely to be positive (see calibration).

Conclusion

- When a bank is burdened by NPLs, it may reject profitable loan applicants
- Splitting it into a BB and a GB may solve this under-investment problem.
- This works if GB receives a transfer from the BB and the BB can write down its debt (haircut).
- Segregation imposes losses to debtholders, which makes debt more costly ex ante, but **no govt. funding required**.
- Gains for entrepreneurs and deposit insurance but losses for bankers.