Post-crisis lesson for EMU governance from the principal-agent approach

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Outline

1 Introduction

2 Agency perspective in the EMU

3 The model

4 Policy implications

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Prerequisites & Intuition

What does the paper present?

Principal-multi agent model embodying hidden-information moral hazard problem - EMU authorities act as a collective principal the designs contracts for each of two agents that Europe's "North" and "South"

Goal of the paper

1. to answer the question if the current EMU governance is efficient
2. to show optimal incentive scheme for the EMU Member States
3. is it possible to apply and execute these results?

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Evidence from the crisis

	2001	2007	2009	2011	change (2007-2001)	change (2011-2007)
Euro area	68,2	66,4	80	87,3	-1,8	20,9
Old Member States						
Austria	66,8	60,2	69,2	72,4	-6,6	12,2
Belgium	106,5	84	95,7	97,8	-22,5	13,8
Finland	42,5	35,2	43,5	49	-7,3	13,8
France	56,9	64,2	79,2	86	7,3	21,8
Germany	59,1	65,2	74,5	80,5	6,1	15,3
Greece	103,7	107,4	129,7	170,6	3,7	63,2
Italy	108,2	103,3	116,4	120,7	-4,9	17,4
Ireland	35,2	25,1	64,9	106,4	-10,1	81,3
Luxembourg	6,3	6,7	15,3	18,3	0,4	11,6
Netherlands	50,7	45,3	60,8	65,5	-5,4	20,2
Portugal	53,8	68,4	83,2	108,1	14,6	39,7
Spain	55,6	36,3	53,9	69,3	-19,3	33
New Member States (joined EMU after 2001)						
Cyprus	61,2	58,8	58,5	71,1	-2,4	12,3
Malta	60,5	61,9	67,6	70,9	1,4	9
Slovenia	26,5	23,1	35	46,9	-3,4	23,8
Slovakia	48,9	29,6	35,6	43,3	-19,3	13,7

Data source: Eurostat

Safeguarding government finances

Stability and Growth Pact

Main features

- 3% limit to the general budget deficit
- 60% limit to the general government sector debt
- police-patrol oversight - Macroeconomic Imbalance Procedure
- sanctions in form of non-interest-bearing deposit of 0.2% GDP, financial fines (up to 0.2% GDP), suspension of financing from Cohesion Funds
- after reform in 2011 automatic procedure for imposing of penalties

Safeguarding government finances

European Fiscal Pact

Changes

- 1% or 0.5% limit to the structural deficit
- stricter enforceability
- conditionality to the European Stability Mechanism
- ultimate fine up to 0.1% of country's GDP

EMU economic governance

Observations

1. Asymmetry of information (hidden action), common reputation, conflicting objectives
2. Different cost of exerting effort by the EMU Member States - conducting sustainable, countercyclical fiscal policy is more costly for "South"
3. Need for proper rules and efficient incentive scheme
4. Need for police-patrol oversight

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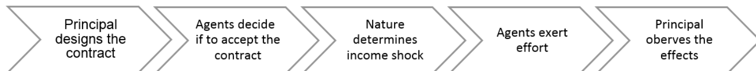
Timing scheme & assumptions

Timing scheme:



Assumptions

- two types of shocks (positive or negative income shock)
- more effort required in a "good state" (countercyclical fiscal policy)
- effort is more costly for "bad agent"
- spill-over to the neighbour Member States dependent on the choice fiscal policy type

Solving the model

First stage

In optimal contract principal **optimizes her utility function** (for all possible combinations of shocks) with respect to **participation constraint** of each of the agents and ensuring that agents have done what she expected.

Second stage

In the second stage agents decide on the effort they would perform taking into consideration (1) costly effort, (2) pay-off from the principal and (3) spill-ever effect from their neighbour. It is a **game of two** agents for which the principal must ensure **Bayesian Nash Equilibrium** for the strategy when both agents do not lie about the type of shock they experience.

Optimal contract

NS, South
PS, South
PS, North
eq, North
NS, North
eq, South
Wage for low effort
Wage for high effort

Observations

- Green and red lines in the graph present strength of optimal incentives for prudent "North" and imprudent "South" respectively in good and bad economic times.
- At the intersection of green and red lines incentives of EMU authorities for low and high effort are equal during negative and positive income shocks.
- Since by assumptions EMU authorities (the principal) are **risk neutral** and EMU Member States (the agents) are **risk averse**, without presence of moral hazard red and green lines would be straight and perpendicular.
- At the intersection of green and red lines not only EMU authorities optimize their objective function but also **participation and incentive constraints are satisfied**.

Observations

- Distortion in form of incentive compatibility constraint is introduced to the line representing the optimal incentive for negative shock.
- The coordinates of optimal contracts show that 'bad' agents (imprudent "South") need stronger incentive mechanisms to comply with the rules. In a typical situation (every situation in line with the assumptions of the model), when comparing to North, **South receives more** in a good economic conditions and less in bad economic times.
- As this creates more incentive for South not to mislead union authorities, **the difference of the strength of incentives for a good and low effort is higher for South**.

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Conclusions & policy implications

1. EMU Member States should be given **continuous, strong and credible encouragement** to overcome the temptations of moral hazard by both surveillance and incentive schemes.
2. The current policy is both too **weak and time-inconsistent**.
3. More efficient solution would be to implement **tailor-made incentive schemes based on rewards** (e.g. preferential loans) **and penalties** (e.g. loss of EU funds).
4. Progressive **economic integration provokes more moral hazard** and requires from EMU authorities implementation of stronger incentives.

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