

# Every Country for Itself, and the Central Bank for Us All?

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In this paper we present an application of dynamic tracking games to a monetary union. We use a small stylized nonlinear three-country macroeconomic model of a monetary union (called MUMOD2) for analysing the interactions between three fiscal (governments: “core”, “thrifty periphery” and “thrifless periphery”) and one monetary (common central bank) policy makers, assuming different objective functions of these decision makers. Using the OPTGAME algorithm, we calculate numerical solutions for cooperative (Pareto optimal) and non-cooperative games (feedback Nash). We show how the policy makers react upon demand shocks according to these solution concepts. To this end we calibrate the model so as replicate some features of the present situation of the Euro Area. In particular, we introduce a negative asymmetric demand side shock aimed at describing the macroeconomic dynamics within a monetary union in a situation similar to the economic crisis (2007-2010) and the sovereign debt crisis (since 2010) in Europe and extrapolate the future development of the monetary union for the next few years under alternative assumptions about future shocks. We investigate the welfare consequences of five scenarios: decentralized fiscal policies by independent governments (the present situation), decentralized fiscal policies with a coalition between the two periphery countries, decentralized fiscal policies with a coalition between the core and the thrifty country (as a model for Greece against the rest), centralized fiscal policy (a fiscal union) with an independent central bank, and a fully centralized fiscal and monetary union. For the latter two scenarios, we investigate the effects of different assumptions about the joint objective function corresponding to different weights for the three governments in the bargaining process assumed to precede the design of the common fiscal policy. We show the importance of these weights and hence of the regulations contained in the fiscal constitution of the union for the macroeconomic outcomes of the resulting games in terms of sustainability of fiscal policies and main objective variables of the policy makers. With the scenario analysis, we systematically investigate the policy trade-offs and the strategic choices resulting from different modes of interaction between the fiscal policy makers and the central bank.