

## Policy Games and Power: Reassessing Fiscal-Monetary Coordination through Nash Analysis

**Joanna Stawska \***

Associate Professor, Department of Central Banking and Financial Intermediation, Institute of Finance, Faculty of Economics and Sociology, University of Lodz, Poland

**Maciej Malaczewski**

Faculty of Economics and Sociology, University of Lodz, Poland

**Paulina Malaczewska**

Faculty of Economics and Sociology, University of Lodz, Poland

**Ewa Stawasz-Grabowska**

Faculty of Economics and Sociology, University of Lodz, Poland

### Abstract

This paper explores the strategic interaction between a central bank and a government in a non-euro area EU country or another state with an autonomous monetary policy and legally binding budget deficit limits. The analysis centers on two independent actors – the government and the central bank – each responsible for fiscal and monetary policy, respectively. Within the framework of a mathematical policy mix model, a certain degree of coordination between fiscal and monetary policies is assumed. The study investigates how varying levels of cooperation influence the decision-making behavior within this specific model. Notably, when the government considers the objectives of the central bank, it does not alter the equilibrium outcomes for either the budget deficit or interest rates. This outcome, highlighting the central bank's dominant role, is derived mathematically from the model and is further supported by the scenario in which the government disregards the central bank's goals – a situation that still allows monetary authorities to shape the Nash equilibrium of both policy variables.

**JEL-Classification:** C70, C72, E52, E62.

### Keywords

Monetary policy, fiscal policy, game theory, Nash Equilibrium, cooperative game.