

**Wojciech Grabowski\***

**Aleksander Welfe\***

## **Qualitative Cointegrated VAR Model. An Application to the Currency Market**

### **Abstract**

The qualitative VEC model, Qual-VECM, we propose in this study extends the existing Qual-VAR by allowing qualitative variables to be nonstationary. This has two consequences. Firstly, the estimation of Qual-VECM must be based on Markov Chain Monte Carlo method. Secondly, the inference on the cointegration rank must be based on simulated values of the *TRACE* statistic since in this circumstances the critical values are different from the standard one.

Qual-VECM was empirically applied to currency market modelling. Its new feature is the inclusion of the market tension (disequilibrium) into the exchange rate equation.

The results confirm that the exchange rate is driven by five main forces: inflation, interest rates, terms of trade, risk attributed to the specific country (*vis-à-vis* the reference countries), and the state of the currency market. The currency market instabilities are caused not only by fundamental factors such as economic activity and the country's balance of payments, but also by a contagion effect resulting from investors' inclination to perceive the country and its neighbors as one group.

**JEL:** C32, C35

**Keywords:** contagion effect, herding, exchange rate models, cointegration, binomial variables