

**Ewa Marciniak**

Akademia Górniczo-Hutnicza w Krakowie

## **On the Optimal Dividend Problem in the Dual Model with Surplus-Dependent Premiums: Barrier Strategies**

We consider the dual risk model, dual to the risk model for the insurance applications, where premiums are surplus-dependent. In such a model premiums are regarded as costs and claims refer to profits. We calculate the expected value of the cumulative dividends paid until the time of ruin, if the barrier strategy is applied. Sufficient and necessary conditions for the optimal barrier strategy to be optimal among all admissible strategies are identified. Moreover, we show the connection between the classical and dual model by considering the classical model with capital injections. The talk is based on the joint work with Z. Palmowski.

### **Literatura**

- [1] Bayraktar, E., Kyprianou, A.E. and Yamazaki, K. (2014) On optimal dividends in the dual model. *Astin Bulletin*, **43**(3), 359–372.
- [2] E. Marciniak, Z. Palmowski,(2016) On the optimal dividend problem for insurance risk models with surplus-dependent premiums, *J Optim Theory Appl* **168**, 723-742.
- [3] E. Marciniak, Z. Palmowski, (2017) On the Optimal Dividend Problem in the Dual Models with Surplus-Dependent Premiums, *J Optim Theory Appl*, doi:10.1007/s10957-016-1050-7