**Risks, Chances and Circular Economy of Automotive Industry –Methodological Tools[[1]](#footnote-1)**

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**Abstract.** Automotive industry, passenger cars and their lifecycle have a significant impact on the economic cycle, economics sector, regional cluster and environment. In the paper, we focus on main methodological tools, which were used and are the key possible instrument by analysing, forecasting and evaluation of sustainability of production and circular economy in an economy cluster with the important share of automotive industry. The presented basic selected econometrical instruments on the macroeconomic level are able to analyse impact of the changes in the world demand on the economic cycle, amount of sale and amount of end-of-life vehicles. The input-output models as the next key tool are most convenient methodology for empirical quantification the structural impact on the suppliers sectors and also the macroeconomic effects of the automotive industry. Because the cyclical fluctuation of the automotive industry can dramatically influence the firm’s defaults of the sector of SME´s we develop and present also the special models for short term firm default forecasting. The automotive industry generated during the processing of end-of-life vehicles (ELV) a huge amount of recyclable but also some hazardous waste. Given the short historical time series, we propose a forecasting framework which combines the time-series forecasting techniques with expert judgement methods. The presented methodology is appropriate for the forecasts of waste streams and for testing if the existing system of ELV processing is able to meet the EU sustainability targets in terms of re-use, recycling and recovery rates.

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