ABSTRACT

The purpose of this dissertation was to scope the available international statistical data on waste in order to explore the possibilities of the combining them with the data on the socio-economic variables and thus to determine the factors which influence the changes in the amounts of generated and managed waste. Furthermore, the purpose was to identify the possible methods of analyses which can be applied in order to analyse above mentioned data. This dissertation consists of the testing of four Hypotheses dealing with the determination of the factors influencing the waste generation and its management. The methods of analyses chosen to test the first three hypotheses were the Logarithmic Mean Divisia Index (LMDI) and the panel data analysis; and the analysed data comprised of data in the 30 European countries in the period 2002–2015. The fourth hypothesis was tested through the principle of life cycle assessment on the data for the Croatia in the period 2009-2015. All of the data analysed in this dissertation were chosen based on their availability. The results showed that the changes in the intensity levels of activities in different sectors had a significant influence on the total amounts of generated hazardous waste, however, not on the non-hazardous waste. Analysed data does not support the claim that the total amounts of recycled packaging waste as well the total amounts of generated packaging waste were significantly influenced by the changes in the mix of packaging materials. Analysed data does give certain evidence that there is a constant decline of the amounts of generated municipal waste which can be observed over time in the European countries independent of socio-economic fluctuations. Results of the analysed data for Croatia did confirm that the decrease in the amounts of generated waste had a better economic and environmental consequences than the increase in the ratio of recovered waste in the total amount of generated waste, however, as expected, it decreases the need for employment in the waste management sector. Applied methods of analyses in this dissertation can be used effectively to analyse the statistical data on waste generation and management in order to compare changes occurring within and between the different countries as they allow different countries to be analysed in the same time as well as one at the time. These analyses can give valuable results which can be used to develop national policies and to monitor results of policies already implemented.

Keywords: Logarithmic Mean Divisia Index; panel data analysis; life cycle assessment; waste generation, waste management, socio-economic data