

# Heavy truck manufacturing and the economic development of the European Union – A longitudinal study of publicly available data

## Master's Thesis of Ya-Jung, Wu

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Long-distance road transportation is a major backbone of the European cargo transport infrastructure. With the growth of the European economy, in the past, truck transport activities have been growing at least proportionally with the EU GDP.

The thesis aims to provide a longitudinal study and analysis of publicly available data to determine to what extent the heavy truck production, sales figures as well as leading heavy truck manufacturers such as Daimler, MAN, Volvo, Scania's KPIs are correlated to the EU GDP. It is believed that the research objectives may contribute to both academic and practical aspects.

In order to achieve the research objectives, the Pearson Correlation Coefficient Analysis is applied in this thesis, providing an easy and understandable results for any two quantitative variables. For instance, correlation between EU-27's heavy truck production units and the EU GDP for selected duration.

There are three main findings on the research outcomes. First, by depicting the scatter plot and doing the Pearson Correlation Coefficient calculation, it is proved that the overall heavy truck industry as well as leading heavy truck manufacturers' production units and sales revenues have been correlated with the EU GDP for the selected duration. However, Pearson Correlation Coefficient method also has its cons, as the scatter plot and the calculated values did not tell the background of the selected variables. Moreover, if it aims to get a significant correlation value, it may be achieved by simply removing the fluctuation values or applying fewer samples.

Therefore, my recommendations for improving the cons are as follows:

1. Consider other methods such as non-parametric method to identify non-linear relationship, if any.
2. Consider other KPIs or factors that may possibly affect the EU economy, heavy truck industry and individual manufacturer.

