

Lead content of gasoline 1983-1995: description of the data base

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The data base LEADC.ASC contains the average annual maximum lead content of gasoline for 137 countries over the 1983-1995 period.

Original data were obtained from the "worldwide gasoline survey" published annually by OCTEL, each issue containing information for the two most recent years¹. For each country, the OCTEL survey provided data on the different types of gasoline sold in the country, their maximum lead content and their market share.

The market share variable was missing for 2491 observations (out of a total of 7246 observations). This was dealt with in two steps:

(i) Exploiting available data from the other year in each survey. When all values were missing for one year and none for the other, all missing values were replaced by corresponding values of the non-missing year. When some values were missing for one year and none for the other, it was assumed that the missing market shares had the same proportion of the non-missing total as in the non-missing year. When all values were missing for both years, all market share were assumed to be identical. This led to the replacement of 2360 missing values.

(ii) For all remaining non trivial missing value patterns (i.e. when some values were missing for both years), the whole time period was considered and simple interpolation was used to complete the series for the corresponding gasoline type. When no clear time pattern arose, the market share was assumed to be constant with respect to the closest year. This led to the replacement of the remaining 131 missing values.

Merging data from all surveys led to a time overlap². We chose to keep from each survey data for the less recent year only, assuming they were (more likely to have been updated and thus) more reliable.

Finally, the average maximum lead content was calculated using market shares as weights.

¹ We thank Mrs Francesca Kremer of OCTEL UK who kindly provided us with the data.

² The only years for which only one set of data is available are 1991 and 1992, because the next survey after 90-91 is 92-93.