DataBase Documentation

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This document give you an overview of my databases.

```r
rm(list=ls()) #Removes all items in Environment!
if (!require("utils")) install.packages("utils")
if (!require("dplyr")) install.packages("dplyr")
if (!require("plm")) install.packages("plm")

library(plm)
library(utils)
library(dplyr)


# The excel file contains several sheets with all my data
# The csv file contains only variables of my model. Hence I dowload my DB with read.csv2
DB_Roa<-data.frame(read.csv2("DataBase_010418.csv", sep = ";",stringsAsFactors=FALSE, header = TRUE ))
write.csv2(DB_Roa, file = "DB_Roa.csv")
## This DB will be used for analysis with my dependent variable = ROA

# From DB I select only row where TobinsQ <> zero . This database will be used when my dependent variab

DB_Tobin <- filter(DB_Roa, !is.na(TobinsQ))
write.csv2(DB_Tobin, file = "DB_Tobin.csv")
```

The table 1 contains a sample of my database.

Table 1: Sample selection of the data base

	Companies	YearFinancialIndicator	ROA	TobinsQ
1-2013	1	2013	0.07	1.07
1-2014	1	2014	0.05	1.03
1-2015	1	2015	0.05	1.54
2-2013	2	2013	0.08	0.36
2-2014	2	2014	0.06	
2-2015	2	2015	0.06	
3-2013	3	2013	0.18	1.42
3-2014	3	2014	0.19	1.53
3-2015	3	2015	0.19	1.63
4-2013	4	2013	0.06	2.18

Function *pdim()* extracts the dimensions of the panel data:

```r
library(plm)
pdim(DB_Roa)
```

```
## Unbalanced Panel: n = 399, T = 1-3, N = 1192
```

```r
pdim(DB_Tobin)
```

```
## Unbalanced Panel: n = 360, T = 1-3, N = 1060
```

Table 2: Variable Definition

	Variables	Description
1	Tobin's Q	The ratio of a firm's market value to the replacement cost of its assets
2	Return on Asset	Earnings before interest over total firm assets
3	Energy Productivity	Revenue ($US) / Total Energy Consumption
4	Carbon Productivity	Revenue ($US) / Total Greenhouse gas Emissions (CO_2)
5	Water Productiviry	Revenue ($US) / Total water (m3)
6	Waste Productivity	Revenue ($US) / [Total waste generated (metric tonnes)–waste recycled/reused (tones)]
7	Sustainability Pay Link	A mechanism to link the remuneration of any member of a company's senior executive team with the achievement of environmental performance targets. The existence of such a link is awarded a score of 100%. A score of 0% is attributed if there is no such mechanism in place
8	Sustainable Themed Commitment	Refers to the existence of a committee at the Board of Directors level whose mandate is related to the sustainability of the company, including but not limited to environmental matters. A score of 100% accrues to the company when such link exists and a score of 0% is attributed if there is no such link in place
9	Audit Score	Refers to the case where a company provides evidence that the latest reported environmental metrics were audited by a third party. Newsweek and their research partners award a score of 100% if such audit has been performed, and a score of 0% is given when such audit was not performed.
10	Leverage	Log of the square of the ratio of long-term debt to common shareholders' equity (shareholders equity minus preferred equity)
11	Net Margin	Log of the ratio of earnings to revenue
12	Firm Size	Log of total assets
13	Industry	Global Industry Classification Standard (GICS) of the firm. The variable take a value from 1 to 10 where 1 = Consumer Discretionary, 2 = Consumer Staples, 3 = Energy, 4 = Financials, 5 = Health Care, 6 = Industrials, 7 = Information Technology, 8 = Materials, 9 = Pharmaceuticals / Biotechnology, 10 = Telecommunication Services and 11 = Utilities