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> # -----
> #                               Program Description
> # ----- .... [TRUNCATED]

> # Load in packages
> library(foreign)

> library(AER)

> library(data.table)

> ##### Key Firms #####
> load("./Data/KEYFIRM_R.RData")

> setkey(KEYFIRM,industry_a)

> KEYSUM_E <- KEYFIRM[, list(wastewater=sum(wastewater_e, na.rm = TRUE),
+   cod=sum(cod_e, na.rm = TRUE), nh=sum(nh_e, na.rm = TRUE),
+   p .... [TRUNCATED]

> # Calculate the percentage
> KEYPER_E <- KEYSUM_E[, list(wastewater = 100*wastewater/sum(wastewater),
+   cod = 100*cod/sum(cod), nh = 100*nh/s .... [TRUNCATED]

> # Chemical Oxygen Demand
> # ===== Table 1 Row 1 =====
> s <- order(-KEYPER_E$cod)

> KEYPER_E <- KEYPER_E[s]

> head(KEYPER_E$cod,5)
[1] 33.40897 15.14991 13.95119 10.37806  4.26675

> rm(list = ls())

> ##### All Firms #####
>
> load("./Data/ALLFIRM_R.RData")

> setkey(ALLFIRM,industry_a)

> ALLSUM_E <- ALLFIRM[, list(wastewater=sum(wastewater_e, na.rm = TRUE),
+   cod=sum(cod_e, na.rm = TRUE), nh=sum(nh_e, na.rm = TRUE),
+   .... [TRUNCATED]

> ## Compare the relative contribution of key and regular firms
> ALLCOMP_E <- ALLFIRM[, list(wastewater=sum(wastewater_e, na.rm = TRUE),
+   c .... [TRUNCATED]

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> AC_PRES <- ALLCOMP_E

> # Calculate the relative percentage
> ALLAUX_E <- ALLFIRM[, list(wastewater=sum(wastewater_e, na.rm = TRUE),
+   cod=sum(cod_e, na.rm = TRUE) .... [TRUNCATED]

> # For safety consideration, sort the two datasets again
> # Sort ALLCOMP_E
> s <- order(ALLCOMP_E$industry_a, ALLCOMP_E$Census_Type)

> ALLCOMP_E <- ALLCOMP_E[s]

> # Sort ALLAUX_E
> s <- order(ALLAUX_E$industry_a)

> ALLAUX_E <- ALLAUX_E[s]

> foo1 <- seq(from = 1, to = 79, by = 2)

> for (i in foo1){
+   ALLCOMP_E$wastewater[i] <-
+   100*ALLCOMP_E$wastewater[i]/ALLAUX_E$wastewater[(i+1)/2]
+   ALLCOMP_E$wastewater[i+1] <- 100 .... [TRUNCATED]

> # ===== Table 1 Rows 2 and 3 =====
> ALLCOMP_E[which(ALLCOMP_E$industry_a == 22), list(cod, product)]
      cod  product
1: 99.6279273 87.21329
2:  0.3720727 12.78671

> ALLCOMP_E[which(ALLCOMP_E$industry_a == 13), list(cod, product)]
      cod  product
1: 91.806901 69.25607
2:  8.193099 30.74393

> ALLCOMP_E[which(ALLCOMP_E$industry_a == 17), list(cod, product)]
      cod  product
1: 91.076747 48.25329
2:  8.923253 51.74671

> ALLCOMP_E[which(ALLCOMP_E$industry_a == 26), list(cod, product)]
      cod  product
1: 99.6800328 98.609103
2:  0.3199672  1.390897

> ALLCOMP_E[which(ALLCOMP_E$industry_a == 15), list(cod, product)]
      cod  product
1: 65.10233 88.08397
2: 34.89767 11.91603

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> # ===== Table A.1 Row 1 =====
> # number of firms
> sel <- which(ALLFIRM$Census_Type == 1)

> numkey <- length(sel)

> # wastewater
> sel <- which(ALLFIRM$wastewater_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.7624049

> # COD
> sel <- which(ALLFIRM$cod_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.7318864

> # Petro
> sel <- which(ALLFIRM$pet_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.3135754

> # NH4
> sel <- which(ALLFIRM$nh_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.2520199

> # BOD
> sel <- which(ALLFIRM$bod_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.1744841

> # CN
> sel <- which(ALLFIRM$cyn_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

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> num1/numkey
[1] 0.04899733

> # Cr6
> sel <- which(ALLFIRM$chr6_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.04856364

> # Phenol
> sel <- which(ALLFIRM$phe_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.02422054

> # As
> sel <- which(ALLFIRM$as_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.02280634

> # Cr
> sel <- which(ALLFIRM$chr_e>0 & ALLFIRM$Census_Type == 1)

> num1 <- length(sel)

> num1/numkey
[1] 0.02006279

> # Table A.1, Row 2
> # number of firms
> sel <- which(ALLFIRM$Census_Type == 2)

> numkey <- length(sel)

> # wastewater
> sel <- which(ALLFIRM$wastewater_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0.3515597

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> # COD
> sel <- which(ALLFIRM$cod_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0.2829483

> # Petro
> sel <- which(ALLFIRM$pet_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0.07908219

> # NH4
> sel <- which(ALLFIRM$nh_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0.06487373

> # BOD
> sel <- which(ALLFIRM$bod_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0.02555167

> # CN
> sel <- which(ALLFIRM$cyn_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0.001281081

> # Cr6
> sel <- which(ALLFIRM$chr6_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0

> # Phenol
> sel <- which(ALLFIRM$phe_e>0 & ALLFIRM$Census_Type == 2)

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> num1 <- length(sel)

> num1/numkey
[1] 0.0004307081

> # As
> sel <- which(ALLFIRM$as_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0.0006552654

> # Cr
> sel <- which(ALLFIRM$chr_e>0 & ALLFIRM$Census_Type == 2)

> num1 <- length(sel)

> num1/numkey
[1] 0
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