Log file for Asset specificity, corporate protection, and trade policy

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Article

```
#------------------------------------------------------------------------
#
# Replication file for Asset specificity, Corporate Protection, and Trade Policy
# British Journal of Political Science
# Benjamin C.K. Egerod & Mogens K. Justesen
#
#------------------------------------------------------------------------

# Preliminaries

# set working directory to the folder where the replication material is
#(dirname(rstudioapi::getActiveDocumentContext()$path))

setwd("C:/Users/bcke.egb/Dropbox (CBS)/Capital punishment/BJPS submission/Conditional accept/replicatio

# load packages
library(sp); library(spdep);  library(splm); library(igraph)
```

```
## Loading required package: spData
```

```
## To access larger datasets in this package, install the spDataLarge
## package with: `install.packages('spDataLarge',
## repos='https://nowosad.github.io/drat/', type='source')`
```

```
## Loading required package: sf
```

```
## Linking to GEOS 3.8.0, GDAL 3.0.4, PROJ 6.3.1
```

```
##
## Attaching package: 'igraph'
```

```
## The following objects are masked from 'package:stats':
##
##     decompose, spectrum
```

```
## The following object is masked from 'package:base':
##
##     union
```

```
library(stringr); library(reshape); library(reshape2); library(plyr); library(dplyr);
```

```
##
## Attaching package: 'reshape2'
```

```
## The following objects are masked from 'package:reshape':
##
##     colsplit, melt, recast
##
## Attaching package: 'plyr'
## The following objects are masked from 'package:reshape':
##
##     rename, round_any
##
## Attaching package: 'dplyr'
## The following objects are masked from 'package:plyr':
##
##     arrange, count, desc, failwith, id, mutate, rename, summarise,
##     summarize
## The following object is masked from 'package:reshape':
##
##     rename
## The following objects are masked from 'package:igraph':
##
##     as_data_frame, groups, union
## The following objects are masked from 'package:stats':
##
##     filter, lag
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(plm); library(readr); library(ggplot2); library(grid); library(gridExtra)
```

```
##
## Attaching package: 'plm'
## The following objects are masked from 'package:dplyr':
##
##     between, lag, lead
##
## Attaching package: 'gridExtra'
## The following object is masked from 'package:dplyr':
##
##     combine
```

```
library(erer); library(vcd); library(oddsratio); library(stargazer)
```

```
## Loading required package: lmtest
## Loading required package: zoo
##
## Attaching package: 'zoo'
## The following objects are masked from 'package:base':
##
```

```
##     as.Date, as.Date.numeric
## Registered S3 method overwritten by 'quantmod':
##   method            from
##   as.zoo.data.frame zoo
##
## Please cite as:
##  Hlavac, Marek (2018). stargazer: Well-Formatted Regression and Summary Statistics Tables.
##  R package version 5.2.2. https://CRAN.R-project.org/package=stargazer
library(lme4); library(arm)
## Loading required package: Matrix
##
## Attaching package: 'Matrix'
## The following object is masked from 'package:reshape':
##
##     expand
## Registered S3 methods overwritten by 'lme4':
##   method                          from
##   cooks.distance.influence.merMod car
##   influence.merMod                car
##   dfbeta.influence.merMod         car
##   dfbetas.influence.merMod        car
## Loading required package: MASS
##
## Attaching package: 'MASS'
## The following object is masked from 'package:dplyr':
##
##     select
##
## arm (Version 1.10-1, built: 2018-4-12)
## Working directory is C:/Users/bcke.egb/Dropbox (CBS)/Capital punishment/BJPS submission/Conditional a
library(cowplot); library(broom)
##
## ************************************************************
## Note: As of version 1.0.0, cowplot does not change the
##   default ggplot2 theme anymore. To recover the previous
##   behavior, execute:
##   theme_set(theme_cowplot())
## ************************************************************
##
## Attaching package: 'cowplot'
## The following object is masked from 'package:reshape':
##
```

```
##     stamp
```

```
library(parallel); library(ggnetwork)
library(doParallel); library(foreach); library(spatialreg)
```

```
## Loading required package: foreach
```

```
## Loading required package: iterators
```

```
## Registered S3 methods overwritten by 'spatialreg':
##   method                   from
##   residuals.stsls          spdep
##   deviance.stsls           spdep
##   coef.stsls               spdep
##   print.stsls              spdep
##   summary.stsls            spdep
##   print.summary.stsls      spdep
##   residuals.gmsar          spdep
##   deviance.gmsar           spdep
##   coef.gmsar               spdep
##   fitted.gmsar             spdep
##   print.gmsar              spdep
##   summary.gmsar            spdep
##   print.summary.gmsar      spdep
##   print.lagmess            spdep
##   summary.lagmess          spdep
##   print.summary.lagmess    spdep
##   residuals.lagmess        spdep
##   deviance.lagmess         spdep
##   coef.lagmess             spdep
##   fitted.lagmess           spdep
##   logLik.lagmess           spdep
##   fitted.SFResult          spdep
##   print.SFResult           spdep
##   fitted.ME_res            spdep
##   print.ME_res             spdep
##   print.lagImpact          spdep
##   plot.lagImpact           spdep
##   summary.lagImpact        spdep
##   HPDinterval.lagImpact    spdep
##   print.summary.lagImpact  spdep
##   print.sarlm              spdep
##   summary.sarlm            spdep
##   residuals.sarlm          spdep
##   deviance.sarlm           spdep
##   coef.sarlm               spdep
##   vcov.sarlm               spdep
##   fitted.sarlm             spdep
##   logLik.sarlm             spdep
##   anova.sarlm              spdep
##   predict.sarlm            spdep
##   print.summary.sarlm      spdep
##   print.sarlm.pred         spdep
##   as.data.frame.sarlm.pred spdep
##   residuals.spautolm       spdep
##   deviance.spautolm        spdep
```

```
##   coef.spautolm            spdep
##   fitted.spautolm          spdep
##   print.spautolm           spdep
##   summary.spautolm         spdep
##   logLik.spautolm          spdep
##   print.summary.spautolm   spdep
##   print.WXImpact           spdep
##   summary.WXImpact         spdep
##   print.summary.WXImpact   spdep
##   predict.SLX              spdep
```

```
##
## Attaching package: 'spatialreg'
```

```
## The following objects are masked from 'package:spdep':
##
##     anova.sarlm, as.spam.listw, as_dgRMatrix_listw, as_dsCMatrix_I,
##     as_dsCMatrix_IrW, as_dsTMatrix_listw, bptest.sarlm, can.be.simmed,
##     cheb_setup, coef.gmsar, coef.sarlm, coef.spautolm, coef.stsls,
##     create_WX, deviance.gmsar, deviance.sarlm, deviance.spautolm,
##     deviance.stsls, do_ldet, eigen_pre_setup, eigen_setup, eigenw,
##     errorsarlm, fitted.gmsar, fitted.ME_res, fitted.sarlm,
##     fitted.SFResult, fitted.spautolm, get.ClusterOption,
##     get.coresOption, get.mcOption, get.VerboseOption,
##     get.ZeroPolicyOption, GMargminImage, GMerrorsar, griffith_sone,
##     gstsls, Hausman.test, HPDinterval.lagImpact, impacts, intImpacts,
##     Jacobian_W, jacobianSetup, l_max, lagmess, lagsarlm, lextrB,
##     lextrS, lextrW, lmSLX, logLik.sarlm, logLik.spautolm, LR.sarlm,
##     LR1.sarlm, LR1.spautolm, LU_prepermutate_setup, LU_setup,
##     Matrix_J_setup, Matrix_setup, mcdet_setup, MCMCsamp, ME, mom_calc,
##     mom_calc_int2, moments_setup, powerWeights, predict.sarlm,
##     predict.SLX, print.gmsar, print.ME_res, print.sarlm,
##     print.sarlm.pred, print.SFResult, print.spautolm, print.stsls,
##     print.summary.gmsar, print.summary.sarlm, print.summary.spautolm,
##     print.summary.stsls, residuals.gmsar, residuals.sarlm,
##     residuals.spautolm, residuals.stsls, sacsarlm, SE_classic_setup,
##     SE_interp_setup, SE_whichMin_setup, set.ClusterOption,
##     set.coresOption, set.mcOption, set.VerboseOption,
##     set.ZeroPolicyOption, similar.listw, spam_setup, spam_update_setup,
##     SpatialFiltering, spautolm, spBreg_err, spBreg_lag, spBreg_sac,
##     stsls, subgraph_eigenw, summary.gmsar, summary.sarlm,
##     summary.spautolm, summary.stsls, trW, vcov.sarlm, Wald1.sarlm
```

```
# load firm data
firm_data <- readRDS("firm_data.rds")

# load matrix of spatial weights
w.mat2 <- readRDS("main_weights_matrix.rds")

# convert matrix to format used for analysis
panel.weight <- get.adjacency(w.mat2, attr='weight') #from edgelist to adjacency matrix
panel.weight <- as.matrix(panel.weight) # standard matrix format
panel.weight <- mat2listw(panel.weight) # from matrix to listw format
```

Figures 1 and 2

```
#-------------------------------------------------------------------------------
# FIGURE 1 and FIGURE 2
# Descriptive statistics
#
#-------------------------------------------------------------------------------

#####################################
# FIGURE 1
# distribution of dumping decisions and duties across countries

# calculate dumping decisions
success <- firm_data %>%
  group_by(AD_CTY_NAME) %>%
  summarize(n_complaints = length(CASE_ID), # successful complaints
            n_success = sum(decision, na.rm = T)) # total n of complaints
```

```
## `summarise()` ungrouping output (override with `.groups` argument)
```

```
#plot it (Panel A in full plot)
complaints1 <- ggplot(na.omit(success), aes(y = n_complaints, x = reorder(AD_CTY_NAME, n_complaints))) +
  geom_bar(stat = "identity", colour = "black", fill = "white") +
  geom_bar(stat = "identity", aes(y = n_success, x = reorder(AD_CTY_NAME, n_complaints)),
           fill = "black") +
  theme_bw() + theme(panel.grid.major = element_blank(),
                     panel.grid.minor = element_blank(),
                     axis.line = element_line(colour = "black"),
                     axis.text.x=element_text(angle = 60, hjust = 1)) +
  labs(x = NULL, y = "Anti-Dumping Cases  \n (log scale)") +
  coord_flip() +
  scale_y_log10(breaks = c(0, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000, 2000))

# calculate mean of duties across countries
extent <- firm_data %>%
  group_by(AD_CTY_NAME) %>%
  summarise(extent = mean(wto_final, na.rm = T),
            n_complaints = length(CASE_ID),
            sd.extent = sd(wto_final, na.rm = T))
```

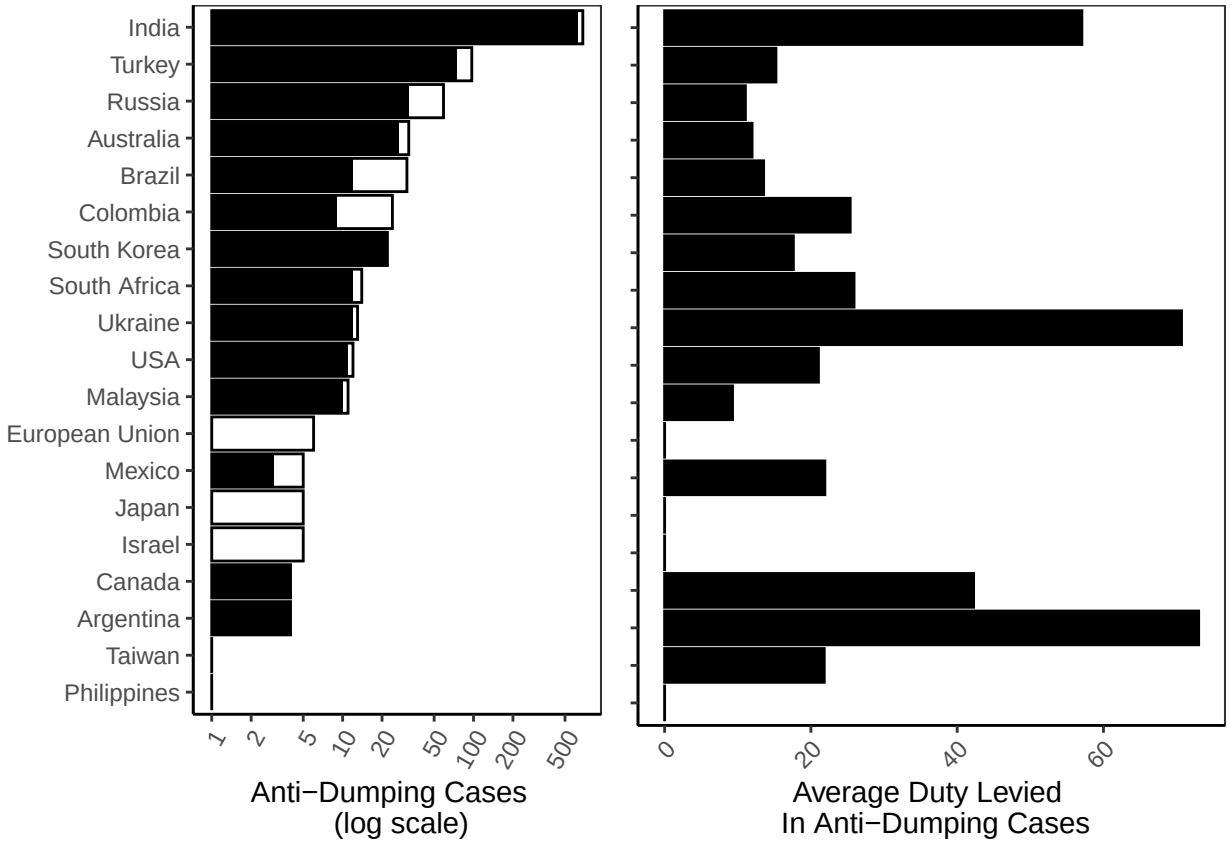
```
## `summarise()` ungrouping output (override with `.groups` argument)
```

```
#Panel B: plot them with bars, using same ordering as panal A
complaints2 <- ggplot(extent, aes(y = extent, x = reorder(AD_CTY_NAME, n_complaints))) +
  geom_bar(stat = "identity", colour = "black", fill = "black") +
  theme_bw() + theme(panel.grid.major = element_blank(),
                     panel.grid.minor = element_blank(),
                     axis.line = element_line(colour = "black"),
                     axis.text.x=element_text(angle = 45, hjust = 1)) +
  labs(x = NULL, # remove country names from this plot
       y = "Average Duty Levied \n In Anti-Dumping Cases") +
  coord_flip() +
  scale_x_discrete(labels = NULL)

#combine plots
```

```
complaints <- grid.arrange(complaints1, complaints2, nrow = 1)
```

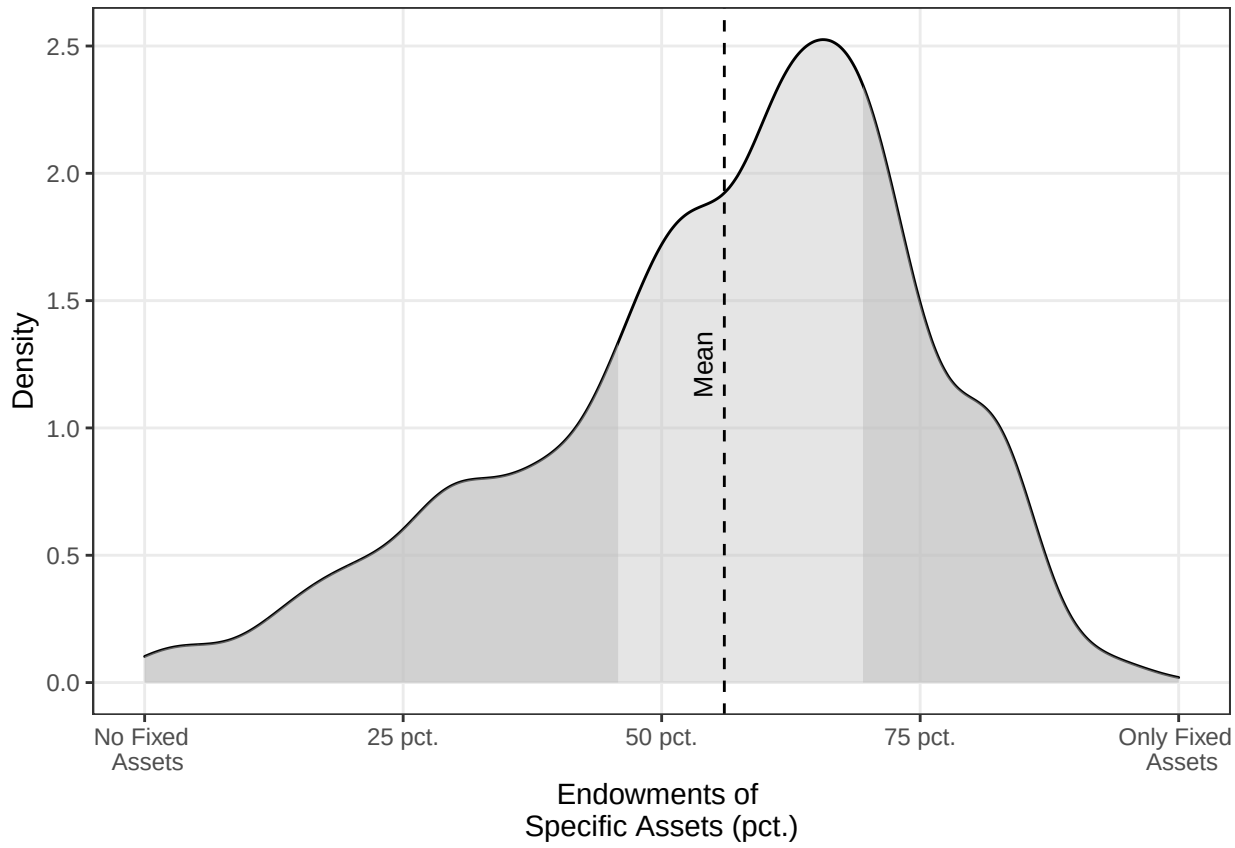
```
## Warning: Transformation introduced infinite values in continuous y-axis
```

```
## Warning: Removed 4 rows containing missing values (geom_bar).
```




```
# ggsave(plot = complaints, filename = "images/n_complaints.eps",
#        device = cairo_ps,
#        width = 8.5, height = 6)

#####################################
# FIGURE 2
# distribution of asset specificity

#Baseline plot with homogeneous shading across entire distribution

p <- ggplot(firm_data, aes(x = mobility)) +
  geom_density(fill = "grey", alpha = .4) +
  theme_bw() + theme(panel.grid.minor = element_blank()) +
  labs(x = "Endowments of \nSpecific Assets (pct.)", y = "Density") +
  geom_vline(xintercept = mean(firm_data$mobility), lty = 2) +
  scale_x_continuous(limits = c(0,1),
                     breaks = seq(0, 1, 0.25),
                     labels = c("No Fixed \n Assets", "25 pct.",
                                "50 pct.", "75 pct.",
                                "Only Fixed \n Assets")) +
```

```
  annotate(x =.54, y = 1.25, geom = "text", label = "Mean",
           angle = 90, size = 3.5)

# add darker shading above and below 1st and 3rd quantiles
d <- ggplot_build(p)$data[[1]] # get plotted data

#calculate the two quantiles
rand1 <- quantile(firm_data$mobility, prob = 0.75)
rand2 <- quantile(firm_data$mobility, prob = 0.25)

# use new data frames to specify differently shaded areas
p <- p + geom_area(data = subset(d, x > rand1), aes(x=x, y=y), fill="grey", alpha = .5) +
  geom_area(data = subset(d, x < rand2), aes(x=x, y=y), fill="grey", alpha = .5)

p
```




```
# ggsave(plot = p, filename = "images/MobileDist.eps", device = cairo_ps,
#        width = 7, height = 5)
```

Figure 3

```
#------------------------------------------------------------------------
#
# FIGURE 3: Plot Network of Firms Seeking Protection
#
```

```
#-----------------------------------------------------------------------

gnet <- read_rds("DataForNetwork.rds")
cluster_names3 <- read_rds("LabelsForNetwork.rds")

net <- ggplot(gnet, aes(x = x, y = y, xend = xend, yend = yend)) +
  geom_edges(color = "grey50", alpha = .2) +
  geom_nodes(size = .5) +
  theme_minimal() +
  labs(x = NULL, y = NULL) +
  scale_x_continuous(breaks = NULL) +
  scale_y_continuous(breaks = NULL) +
  geom_text(data = cluster_names3,
            aes(x = coord_x, y = coord_y,
                label = industry), inherit.aes = F)

net
```

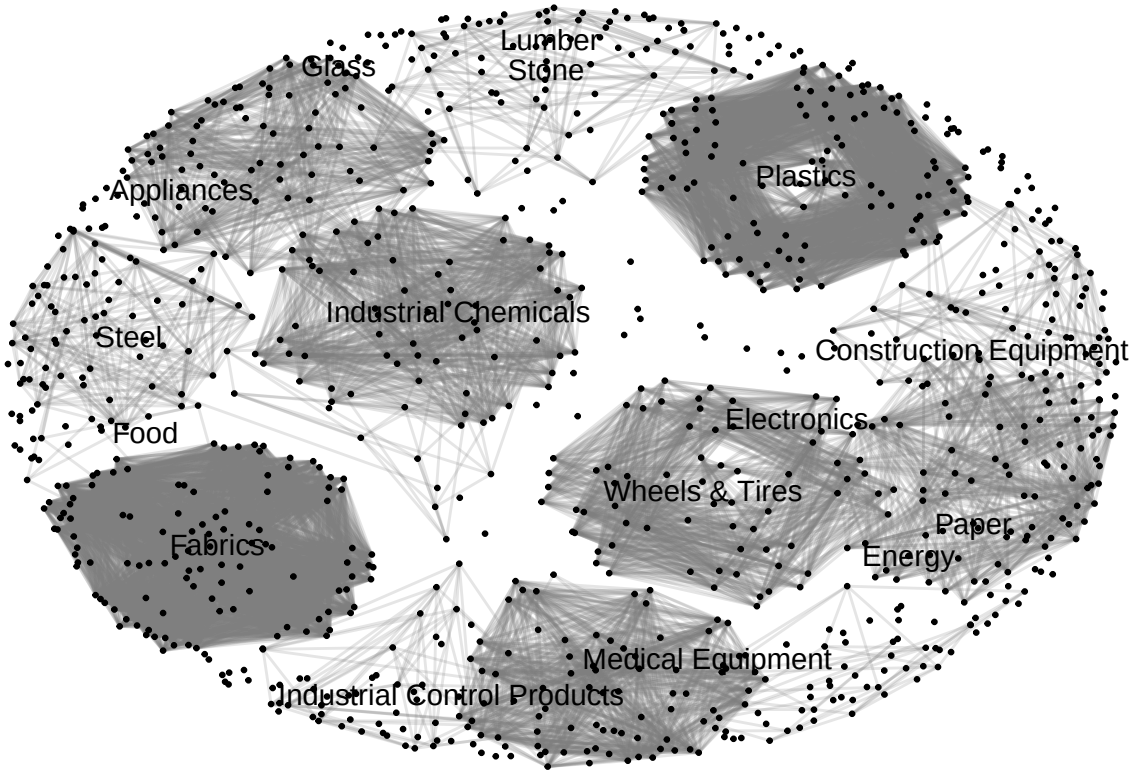


Figure 4

```
#-------------------------------------------------------------------------------
#
# Spatial Autoregressive Models
#
#-------------------------------------------------------------------------------
```

```
#########################################################################################################################
# DUTY AMOUNT AS DEPENDENT VARIABLE

##############################
#bivariate models


slx.biv <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + SLX + AD_CTY_NAME,
                    data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-1
#summary(slx.biv)

set.seed(888)

slx.imp.biv <- impacts(slx.biv, listw = panel.weight, R = 500, zstats = T)
#summary(slx.imp.biv)

#bivariate direct effects
biv.sims <- slx.imp.biv$sres$direct
biv.sims <- as.data.frame(biv.sims)
biv.sims <- biv.sims[,1]
biv.sims <- data.frame(PE = median(biv.sims), t(quantile(biv.sims, probs=c(0.025,0.05,0.95,0.975), na.r
biv.sims$var <- "Capital Mobility"

#bivariate indirect effects
biv.sims.indir <- slx.imp.biv$sres$indirect
biv.sims.indir <- as.data.frame(biv.sims.indir)
biv.sims.indir <- biv.sims.indir[,1]
biv.sims.indir <- data.frame(PE = median(biv.sims.indir), t(quantile(biv.sims.indir, probs=c(0.025,0.05
biv.sims.indir$var <- "Capital Mobility"

########################
# controls

slx.mod <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + SLX + log(revenue) + log(total_a
                    + log(capital+.5)+ scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 +
                      AD_CTY_NAME+ factor(year),
                    data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-1
#summary(slx.mod)

set.seed(888)

slx.imp <- impacts(slx.mod, listw = panel.weight, R = 500, zstats = T)
#summary(slx.imp)

#control direct effects

cont.sims <- slx.imp$sres$direct
cont.sims <- as.data.frame(cont.sims)
cont.sims <- cont.sims[,1]
cont.sims <- data.frame(PE = median(cont.sims), t(quantile(cont.sims,probs=c(0.025,0.05,0.95,0.975), na
cont.sims$var <-c("Capital Mobility")
```

```r
#control indirect effects
cont.sims.indir <- slx.imp$sres$indirect
cont.sims.indir <- as.data.frame(cont.sims.indir)
cont.sims.indir <- cont.sims.indir[,1]
cont.sims.indir <- data.frame(PE = median(cont.sims.indir), t(quantile(cont.sims.indir, probs=c(0.025,0
cont.sims.indir$var <-c("Capital Mobility")

##################################
# INTRA-INDUSTRY COMPARISONS

prod2 <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + SLX + log(revenue)+
                    log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                    scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + #SLX2 + #+ SLX3 + SLX4 + SLX5 +
                    prod4,
                  data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-11,

#summary(prod2)

set.seed(888)

prod.boots <- impacts(prod2, listw = panel.weight, R = 500, zstats = T)
#summary(prod.boots)

# direct effects
prod.res<-as.data.frame(prod.boots$sres$direct)
prod.res <- prod.res[,1]
prod.res <- data.frame(PE = median(prod.res), t(quantile(prod.res, probs=c(0.025,0.05,0.95,0.975), na.r
prod.res$var <- c("Capital Mobility")

#indirect effects

prod.res.indir <-as.data.frame(prod.boots$sres$indirect)
prod.res.indir <- prod.res.indir[,1:6]
prod.res.indir <- data.frame(PE = apply(prod.res.indir,2,median), t(apply(prod.res.indir,2,quantile, pr
prod.res.indir$var <- c("Capital Mobility")

##################################
# gather all effect estimates

direct <- rbind(biv.sims, cont.sims, prod.res)
direct$model <- c("Bivariate", "Controls", "Product FEs")
#direct$model <- c(rep("A: Bivariate",2), rep("B: Multivariate", 10), rep("C: Product FEs", 10))
direct$type <- "Effect type: Direct"
rownames(direct)<- NULL

indirect <- rbind(biv.sims.indir, cont.sims.indir, prod.res.indir[1,])
indirect$model <- c("Bivariate", "Controls", "Product FEs")
indirect$type <- "Effect type: Indirect"
rownames(indirect) <- NULL

effects <- rbind(direct, indirect)
effects$ordering <- c(3, 2, 1, 3, 2, 1)
effects$rho.se <- c(round(slx.biv$rho.se, digits = 3),
```

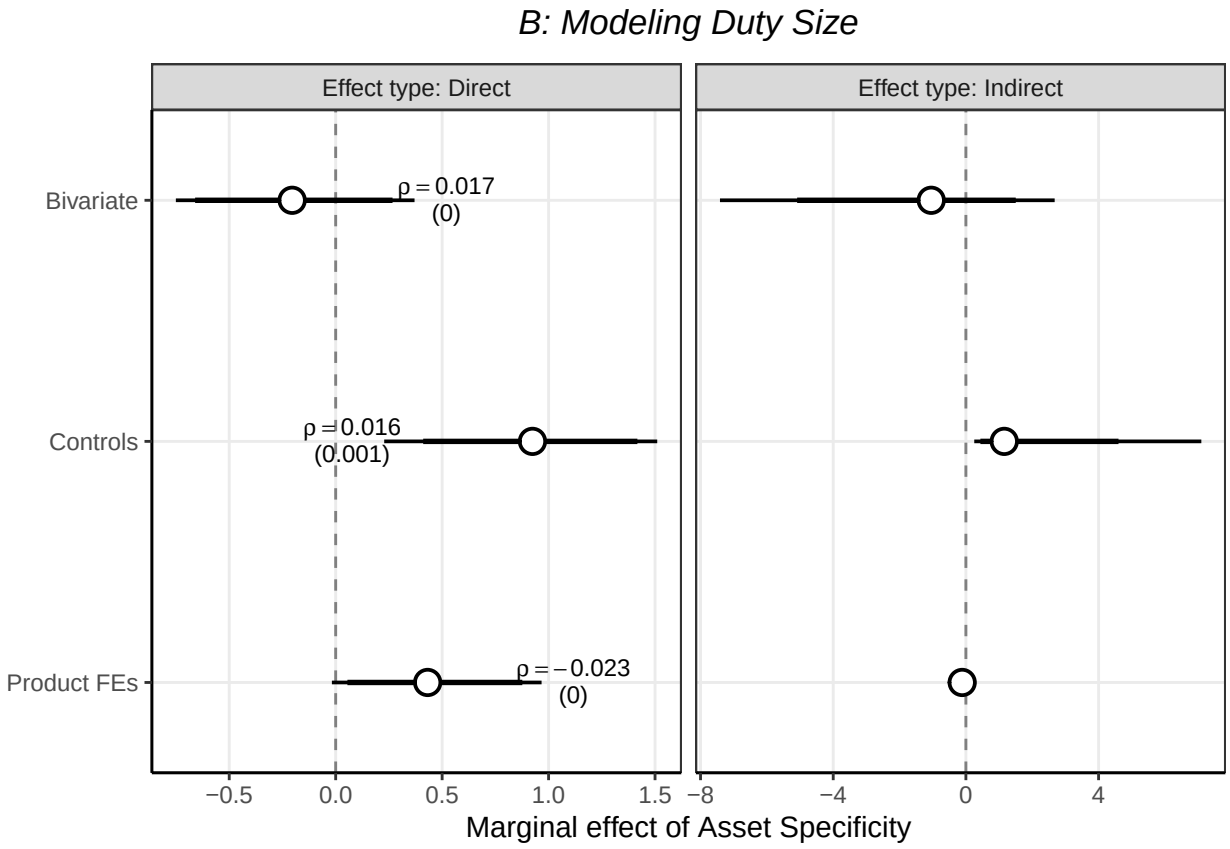
```
                    round(slx.mod$rho.se, digits = 3),
                    round(prod2$rho.se, digits = 3), NA, NA, NA)
effects$rho <- c(round(slx.biv$rho, digits = 3),
                 round(slx.mod$rho, digits = 3),
                 round(prod2$rho, digits = 3), NA, NA, NA)
#effects$ordering <- c(1,2, 1, 2, 3,4,5,6,7,8,9,10, 1,2,3,4,5,6,7,8,9,10)
names(effects)[2:5] <- c("lwr95", "lwr90", "upr90", "upr95")

##############################
# plot the results

# Define some parameters for the plot
#

cols <- c("direct" = "black", "indirect" = "grey")

ann_text <- data.frame(PE = c(effects$upr95[1]+0.15,
                              effects$lwr95[2] - 0.15,
                              effects$upr95[3] + 0.15),#c(1, 0.2, 0.2, 1, 0.2, 0.2),
                       ordering = c(3.05, 2.05, 1.05, 3, 2, 1),
                       lab = effects$rho, lab.se = effects$rho.se,
                       type = factor(c("Effect type: Direct", "Effect type: Direct", "Effect type: Direc
                                       "Effect type: Indirect","Effect type: Indirect", "Effect type: In
                                     levels = c("Effect type: Direct", "Effect type: Indirect")))
ann_text2 <- data.frame(PE = c(effects$upr95[1] +0.15,
                               effects$lwr95[2] - 0.15,
                               effects$upr95[3] + 0.15),#c(1, 0.2, 0.2, 1, 0.2, 0.2),
                        ordering = c(2.95, 1.95, 0.95, 3, 2, 1),
                        lab = effects$rho, lab.se = effects$rho.se,
                        type = factor(c("Effect type: Direct", "Effect type: Direct", "Effect type: Dire
                                        "Effect type: Indirect","Effect type: Indirect", "Effect type: I
                                      levels = c("Effect type: Direct", "Effect type: Indirect")))

ann_text$cors <- paste(c("rho==", "rho==", "rho==", NA, NA, NA), c(ann_text$lab[1:3]),
                       sep = "")
ann_text$cors[4:6] <- NA
ann_text2$SEs <- paste("(", ann_text$lab.se, ")",
                       sep = "")
ann_text2$SEs[4:6] <- NA


#plot the  results

spat.plot <- ggplot(effects, aes(x = ordering, y = PE)) +
  geom_hline(yintercept = 0, colour = gray(1/2), lty = 2)+
  # geom_linerange(aes(x =ordering, ymin = lwr90_2,
  #                    ymax = upr90_2),
  #                lwd = 1, position = position_dodge(width = 1/2)) +
  geom_pointrange(aes(x =  ordering, y = PE, ymin = lwr95,
                      ymax = upr95),
                  lwd = 0.65, position = position_dodge(width = 1/2),
                  shape = 21, fill = "WHITE")  +
  geom_pointrange(aes(x =  ordering, y = PE, ymin = lwr90,
```

```
                      ymax = upr90),
                  lwd = 0.95, position = position_dodge(width = 1/2),
                  shape = 21, fill = "WHITE") +
  facet_wrap(~ type, scales = "free_x") +
  coord_flip() +
  theme_bw() + theme(panel.grid.minor = element_blank(),
                     axis.line = element_line(colour = "black"),
                     plot.title = element_text(hjust = 0.5)) +
  scale_colour_manual(name="Effect Type", values=cols) +
  labs(x = NULL, y = "Marginal effect of Asset Specificity") +
  ggtitle(expression(italic("B: Modeling Duty Size"))) +
  geom_text(data = ann_text, aes(label = cors), size = 3, parse = T) +
  geom_text(data = ann_text2, aes(label = SEs), size = 3) +
  scale_x_continuous(breaks = c(1, 2, 3),
                     labels = c("Product FEs", "Controls", "Bivariate"))
```

```
spat.plot
```

```
## Warning: Removed 3 rows containing missing values (geom_text).
```

```
## Warning: Removed 3 rows containing missing values (geom_text).
```




```
# ggsave(plot = spat.plot, filename = "images/coefFe.eps", device = cairo_ps)
```

```
#############################################################################################################
# DUMPING DECISION AS DEPENDENT VARIABLE

###############################
#bivariate models


dec.biv <- lagsarlm(decision ~ I(fixed_assets/total_assets) + SLX + AD_CTY_NAME,
                    data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-1
summary(dec.biv)
```

Call:lagsarlm(formula = decision ~ I(fixed_assets/total_assets) + SLX + AD_CTY_NAME, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -0.932157 -0.049512 0.083582 0.157329 0.666047

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 0.9368384 0.1511886 6.1965 5.774e-10 I(fixed_assets/total_assets) 0.1387750 0.0589694 2.3533 0.0186055 SLX -0.0185622 0.0014604 -12.7107 < 2.2e-16 AD_CTY_NAMEAustralia -0.1750582 0.1580150 -1.1079 0.2679233 AD_CTY_NAMEBrazil -0.6226676 0.1581498 -3.9372 8.244e-05 AD_CTY_NAMECanada -0.0134726 0.2104949 -0.0640 0.9489669 AD_CTY_NAMEColombia -0.6035139 0.1609678 -3.7493 0.0001773 AD_CTY_NAMEEuropean Union -1.0105633 0.1921361 -5.2596 1.444e-07 AD_CTY_NAMEIndia -0.1923784 0.1498286 -1.2840 0.1991457 AD_CTY_NAMEIsrael -0.9911619 0.1996545 -4.9644 6.892e-07 AD_CTY_NAMEJapan -1.0260976 0.1999269 -5.1324 2.861e-07 AD_CTY_NAMEMalaysia -0.1020879 0.1738111 -0.5873 0.5569689 AD_CTY_NAMEMexico -0.4353957 0.2001850 -2.1750 0.0296326 AD_CTY_NAMEPhilippines -1.0322849 0.3329813 -3.1001 0.0019344 AD_CTY_NAMERussia -0.4121240 0.1541567 -2.6734 0.0075085 AD_CTY_NAMESouth Africa -0.1652623 0.1687322 -0.9794 0.3273649 AD_CTY_NAMESouth Korea -0.0129805 0.1618342 -0.0802 0.9360713 AD_CTY_NAMETaiwan -0.0107837 0.3327301 -0.0324 0.9741453 AD_CTY_NAMETurkey -0.3654746 0.1521134 -2.4026 0.0162769 AD_CTY_NAMEUkraine -0.0758730 0.1702619 -0.4456 0.6558679 AD_CTY_NAMEUSA -0.1169920 0.1723991 -0.6786 0.4973843

Rho: 0.015832, LR test value: 80.996, p-value: < 2.22e-16 Asymptotic standard error: 0.00047549 z-value: 33.297, p-value: < 2.22e-16 Wald statistic: 1108.7, p-value: < 2.22e-16

Log likelihood: -216.7064 for lag model ML residual variance (sigma squared): 0.088551, (sigma: 0.29757)

Number of observations: 1030 Number of parameters estimated: 23 AIC: 479.41, (AIC for lm: 558.41) LM test for residual autocorrelation test value: 87.078, p-value: < 2.22e-16

```
set.seed(888)

dec.imp.biv <- impacts(dec.biv, listw = panel.weight, R = 500, zstats = T)
#summary(dec.imp.biv)

#bivariate direct effects
dec.biv.sims <- dec.imp.biv$sres$direct
dec.biv.sims <- as.data.frame(dec.biv.sims)
dec.biv.sims <- dec.biv.sims[,1]
dec.biv.sims <- data.frame(PE = median(dec.biv.sims), t(quantile(dec.biv.sims, probs=c(0.025,0.05,0.95,
dec.biv.sims$var <- "Capital Mobility"

#bivariate indirect effects
biv.sims.indir <- dec.imp.biv$sres$indirect
biv.sims.indir <- as.data.frame(biv.sims.indir)
biv.sims.indir <- biv.sims.indir[,1]
biv.sims.indir <- data.frame(PE = median(biv.sims.indir), t(quantile(biv.sims.indir, probs=c(0.025,0.05
biv.sims.indir$var <- "Capital Mobility"

########################
# controls

dec.mod <- lagsarlm(decision ~ I(fixed_assets/total_assets) + SLX + log(revenue) + log(total_assets) + l
                      AD_CTY_NAME + factor(year),
                    data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-1
summary(dec.mod)
```

Call:lagsarlm(formula = decision ~ I(fixed_assets/total_assets) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + AD_CTY_NAME + factor(year), data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.0899417 -0.0558746 0.0013484 0.1229912 0.8278704

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 1.2993660 0.2014043 6.4515 1.107e-10 I(fixed_assets/total_assets) 0.2854624 0.0653455 4.3685 1.251e-05 SLX -0.0167143 0.0020691 -8.0780 6.661e-16 log(revenue) 0.1080774

0.0215867 5.0067 5.538e-07 log(total_assets) -0.0935475 0.0226413 -4.1317 3.601e-05 log(taxation + 119067.3) -0.0338436 0.0113589 -2.9795 0.0028875 log(capital + 0.5) -0.0244192 0.0070008 -3.4880 0.0004866 AD_CTY_NAMEAustralia 0.0645233 0.1535060 0.4203 0.6742438 AD_CTY_NAMEBrazil -0.4203420 0.1571799 -2.6743 0.0074891 AD_CTY_NAMECanada 0.1631527 0.2033437 0.8023 0.4223508 AD_CTY_NAMEColombia -0.4325460 0.1603797 -2.6970 0.0069965 AD_CTY_NAMEEuropean Union -0.6837447 0.1865024 -3.6661 0.0002462 AD_CTY_NAMEIndia -0.1197209 0.1496876 -0.7998 0.4238240 AD_CTY_NAMEIsrael -0.8364582 0.1926223 -4.3425 1.409e-05 AD_CTY_NAMEJapan -0.5571890 0.1948324 -2.8598 0.0042386 AD_CTY_NAMEMalaysia 0.4630207 0.1754443 2.6391 0.0083119 AD_CTY_NAMEMexico -0.1412023 0.1943952 -0.7264 0.4676135 AD_CTY_NAMEPhilippines -0.8647165 0.3224385 -2.6818 0.0073227 AD_CTY_NAMERussia -0.2471747 0.1482793 -1.6670 0.0955236 AD_CTY_NAMESouth Africa -0.1934470 0.1724670 -1.1216 0.2620126 AD_CTY_NAMESouth Korea -0.0682622 0.1617032 -0.4221 0.6729193 AD_CTY_NAMETaiwan 0.3615718 0.3209601 1.1265 0.2599405 AD_CTY_NAMETurkey -0.1551486 0.1516003 -1.0234 0.3061162 AD_CTY_NAMEUkraine 0.0988637 0.1711962 0.5775 0.5636100 AD_CTY_NAMEUSA -0.0340603 0.1706910 -0.1995 0.8418376 factor(year)2007 -0.0511557 0.0319998 -1.5986 0.1099037 factor(year)2008 0.0713630 0.0351149 2.0323 0.0421264 factor(year)2009 -0.1700712 0.0304513 -5.5850 2.337e-08 factor(year)2010 -0.1642362 0.0877975 -1.8706 0.0613970 factor(year)2011 -0.0908106 0.0638442 -1.4224 0.1549164 factor(year)2012 0.0604979 0.0632442 0.9566 0.3387811 factor(year)2013 -0.3878436 0.0477618 -8.1204 4.441e-16 factor(year)2014 -0.0875100 0.0525025 -1.6668 0.0955585 factor(year)2015 -0.1510269 0.0578142 -2.6123 0.0089940

Rho: 0.014718, LR test value: 59.221, p-value: 1.41e-14 Asymptotic standard error: 0.0012267 z-value: 11.998, p-value: < 2.22e-16 Wald statistic: 143.96, p-value: < 2.22e-16

Log likelihood: -122.8254 for lag model ML residual variance (sigma squared): 0.073914, (sigma: 0.27187) Number of observations: 1030 Number of parameters estimated: 36 AIC: 317.65, (AIC for lm: 374.87) LM test for residual autocorrelation test value: 39.974, p-value: 2.5736e-10

```
set.seed(888)

dec.imp <- impacts(dec.mod, listw = panel.weight, R = 500, zstats = T)
#summary(slx.imp)

#control direct effects

cont.sims <- dec.imp$sres$direct
cont.sims <- as.data.frame(cont.sims)
cont.sims <- cont.sims[,1:6]
cont.sims <- data.frame(PE = apply(cont.sims,2, median), t(apply(cont.sims,2,quantile,probs=c(0.025,0.0
cont.sims$var <-c("Capital Mobility")


#control indirect effects
cont.sims.indir <- dec.imp$sres$indirect
cont.sims.indir <- as.data.frame(cont.sims.indir)
cont.sims.indir <- cont.sims.indir[,1:6]
cont.sims.indir <- data.frame(PE = apply(cont.sims.indir,2,median), t(apply(cont.sims.indir,2,quantile,

cont.sims.indir$var <-c("Capital Mobility")

#################################
# INTRA-INDUSTRY COMPARISONS

dec.prod <- lagsarlm(decision ~ I(fixed_assets/total_assets) + scale(SLX) + log(revenue)+
                       log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                       scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + #SLX2 + #+ SLX3 + SLX4 + SLX
```

```
                        prod4,
                      data = firm_data, panel.weight, method="eigen",
                      zero.policy=TRUE, tol.solve=1.0e-13, control=list(fdHess=TRUE))
summary(dec.prod)
```

Call:lagsarlm(formula = decision ~ I(fixed_assets/total_assets) + scale(SLX) + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + prod4, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-13, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -8.7500e-01 -5.1107e-03 3.0624e-17 5.4685e-03 5.0000e-01

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate (Intercept) 0.30204826 I(fixed_assets/total_assets) 0.11936247 scale(SLX) 0.31177363 log(revenue) 0.00342655 log(total_assets) -0.01427407 log(taxation + 119067.3) 0.09084667 log(capital + 0.5) 0.00189263 scale_slx2 -1.79879687 scale_slx3 0.98167844 scale_slx4 0.79052260 scale_slx5 0.08988095 prod40XIndiaX2008 -0.03786416 prod4Aluminum FoilXTurkeyX2014 -0.04037849 prod4Articulated Link Chain and Parts thereofXTurkeyX2010 -0.06245725 prod4Benzoyl PeroxideXSouth KoreaX2008 -0.06446982 prod4Bias Tyres for Bus and Lorries/TrucksXIndiaX2007 0.18997159 prod4Biaxially Oriented Polypropylene FilmsXMalaysiaX2013 -0.02769872 prod4BlendersXColombiaX2009 -1.04564517 prod4BoltsXColombiaX2009 -0.02226653 prod4Bond PaperXMexicoX2013 -0.13099804 prod4Cathode Ray Colour Television Picture TubesXIndiaX2009 -0.03715086 prod4Ceftriaxone Sodium SterileXIndiaX2008 -0.00393891 prod4Cellophane Transparent FilmXIndiaX2006 -0.03529878 prod4Ceramic TilesXIndiaX2009 -0.02909968 prod4Ceramic TilesXSouth KoreaX2006 -0.03836588 prod4Certain Aluminium ExtrusionsXAustraliaX2010 -0.01739319 prod4Certain Concrete Reinforcing BarXCanadaX2015 -0.02796364 prod4Certain FabricsXTurkeyX2009 -1.06968840 prod4Certain Glass Fibre and articles thereofXIndiaX2011 -0.05449859 prod4Certain Hollow Structural SectionsXAustraliaX2009 -1.00873204 prod4Certain Hollow Structural SectionsXAustraliaX2012 0.03460568 prod4Certain Made-Up Textile Articles and Fabrics Made of Artificial or Synthetics FibersXTurkeyX2010 -1.04067323 prod4Certain Oil Country Tubular GoodsXCanadaX2010 -0.01768682 prod4Certain Oil Country Tubular GoodsXUSAX2014 -0.12365018 prod4Certain Polyester Staple FiberXUSAX2007 -0.01926341 prod4Certain Steel NailsXUSAX2008 -0.12191949 prod4Choline ChlorideXIndiaX2012 -0.03915866 prod4Citric AcidXRussiaX2015 -0.03456193 prod4Coated Paper and CardboardXArgentinaX2012 -0.03163530 prod4Cold-Rolled Flat Products of Stainless SteelXIndiaX2009 -0.16420637 prod4Cold-rolled Flat Steel Products with Polymer CoatingXRussiaX2009 -1.81149340 prod4Cold-rolled Flat Steel Products with Polymer CoatingXRussiaX2012 -0.24416140 prod4Cold-rolled Flat Steel ProductsXRussiaX2007 -1.16665446 prod4Cold-Rolled Iron and Non-Alloy Steel SheetsXMexicoX2013 -1.01578459 prod4Cold-worked Seamless Pipes and Tubes of Stainless SteelXRussiaX2013 -0.02136476 prod4Commercial Vehicle TyresXRussiaX2015 -0.04543325 prod4Compact Fluorescent LampsXIndiaX2009 -0.01385500 prod4Cored Wire of Base MetalXTurkeyX2011 -0.00457864 prod4Crawler

DozersXRussiaX2015 -0.02408101 prod4Diclofenac SodiumXIndiaX2008 -0.03354396 prod4Dioctyl Phthalate (DOP)XTurkeyX2011 -0.00262442 prod4Ductile Iron Pipes (DI Pipes)XIndiaX2007 -0.00838480 prod4Electic Storage Water HeatersXTurkeyX2013 0.07171116 prod4Electrical InsulatorsXIndiaX2013 -1.03841484 prod4Ethanolamines (MEA and TEA)XBrazilX2013 -0.03651132 prod4Ethyl AcetateXSouth KoreaX2008 -0.04565075 prod4Ethylene-Propylene-Non-Conjugated Diene Rubber (EPDM)XIndiaX2006 -0.08778196 prod4Fan CoilXTurkeyX2010 0.01184615 prod4FerrosiliconXUSAX2014 -1.01378325 prod4Float GlassXSouth KoreaX2008 -0.03659248 prod4Formulated GlyphosateXAustraliaX2013 -1.01440794 prod4Frontseating Service ValvesXUSAX2009 -0.08886279 prod4Frozen Bone-in Portions of Fowls of the Species Gallus DomesticusXSouth AfricaX2015 0.00173977 prod4Fully Drawn or Fully Oriented Yarn/Spin Draw Yarn Flat Yarn of PolyesterXIndiaX2009 0.09797883 prod4Glass Fiber Reinforcement MaterialsXTurkeyX2010 -0.02715394 prod4GlasswareXBrazilX2011 -0.02437587 prod4GranitesXTurkeyX2012 -1.02263645 prod4Graphite ElectrodesXRussiaX2012 0.00314719 prod4Hoes/Digging Bars/PicksXColombiaX2009 -0.04999433 prod4Hot Rolled Plate SteelXAustraliaX2013 -0.02727099 prod4Hot Rolled Structural Steel SectionsXAustraliaX2014 -0.05714237 prod4Hydrogen PeroxideXIndiaX2008 0.02824806 prod4Instantaneous Gas Water HeatersXTurkeyX2014 -0.00494519 prod4Knives for Electromechanical Domestic Kitchen AppliancesXTurkeyX2009 -1.08343246 prod4Kraft PaperXSouth KoreaX2008 -0.03827535 prod4Lactic AcidXUkraineX2009 -0.03696786 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2011 -1.03615765 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2012 -0.95077333 prod4MalathionXMexicoX2007 -1.06680641 prod4Maleic Anhydride (MAN)XIndiaX2008 -0.00641811 prod4Medical Glass Containers with Capacity not exceeding 0.15 LXUkraineX2013 -0.05119401 prod4Men's UndergarmentsXColombiaX2007 -1.02661910 prod4Methylene Diphenyl Diisocyanate (MDI)XBrazilX2015 -0.99688027 prod4Mono Ethylene Glycol (Meg)XTurkeyX2010 -0.01878227 prod4Mosquito CoilsXPhilippinesX2010 -1.07457087 prod4Nap Linen (Including Long Nap) and Terry LinenXUkraineX2009 -0.01248136 prod4NutsXColombiaX2009 -1.02226653 prod4Nylon Filament YarnXIndiaX2006 0.05279616 prod4Nylon Tyre Cord FabricsXIndiaX2009 -0.05022699 prod4Opal GlasswareXIndiaX2011 -0.05349082 prod4Oriented Strand Board (Osb)XTurkeyX2008 -0.04263431 prod4Partially Oriented Yarn (POY)XIndiaX2007 -0.03680019 prod4PentaerythritolXIndiaX2006 -0.04904131 prod4PentaerythritolXIndiaX2013 -1.04509426 prod4Peroxosulphates (also known as Persulphates)XIndiaX2014 -1.00385525 prod4PET FilmXSouth KoreaX2008 -0.02040856 prod4PhenolXIndiaX2008 -0.03786416 prod4Phosphoric Acid - Technical Grade and Food GradeXIndiaX2008 -0.03359062 prod4Phosphoric Acid of All Grades and All Concentrations Excluding Agriculture Fertilizer GradeXIndiaX2009 -0.04029377 prod4Plain Medium Density Fibre BoardXIndiaX2009 -0.22450488 prod4Plates/Sheets/Film/Foil and Strip of Polymers of Vinyl Chloride (PVC)XSouth AfricaX2008 -0.02147248 prod4Polvinyl AlcoholXSouth KoreaX2006 0.00043547 prod4Poly Vinyl Chloride (PVC) - Suspension GradeXIndiaX2007 -0.10154642 prod4Poly Vinyl Chloride Paste Resin (PVC Paste Resin)XIndiaX2011 -1.04692675 prod4PolycarbonatesXBrazilX2013 -1.04233721 prod4Polyester YarnXSouth KoreaX2008 -0.05964735 prod4Polyethylene Terephthalate Film/Sheet/Strip (PET Film)XUSAX2008 -0.01302776 prod4Polypropylene ResinXBrazilX2010 -0.51024119 prod4Polypropylene ResinXBrazilX2014 -0.08884716 prod4Portland CementXSouth AfricaX2015 -0.04018657 prod4Purified Terephthalic AcidXIndiaX2015 -1.21792005 prod4Pvc-SXBrazilX2008 1.46882358 prod4Quenched and Tempered Steel PlateXAustraliaX2014 -0.02704574 prod4QuicklimeXAustraliaX2013 -1.07237903 prod4Reinforced Deformed Bar (Rounds)XIsraelX2009 -1.01280398 prod4Rod in CoilsXAustraliaX2015 -0.31413659 prod4Rubber Chemicals (MBT/CBS/TDQ/PVI/TMT/PX-13 (6PPD))XIndiaX2008 -0.06312373 prod4Rubber Chemicals (PX-13 (6PPD))XIndiaX2008 -0.06312373 prod4Rubber Conveyor BeltsXUkraineX2014 -0.98308370 prod4SaccharinXIndiaX2007 -0.03134263 prod4Seamless steel OCTGXRussiaX2015 -0.02257561 prod4Silicon MetalXAustraliaX2015 -0.02851934 prod4SocksXColombiaX2007 -1.01476086 prod4Sodium Formaldehyde Sulfoxylate (SFS)XTaiwanX2010 -0.03551454 prod4Sodium Formaldehyde Sulphoxylate (SFS)XIndiaX2006 -0.01955629 prod4Stainless Steel Cold Rolled Flat ProductsXEuropean UnionX2009 -0.98755302 prod4Stainless Steel Cold Rolled Flat ProductsXIndiaX2013 -1.01691289 prod4Stainless Steel FlatwareXRussiaX2015 -0.04009825 prod4Stainless Steel Tubes and PipesXSouth AfricaX2006 -1.05467777 prod4Steel Railway WheelsXRussiaX2015 -0.00533852 prod4Steel Reinforcing BarXAustraliaX2015 0.01919675 prod4Steel SheetsXMexicoX2014 -0.03192355 prod4Steel WheelsXIndiaX2007 -0.02173815 prod4Steel Wire RodXMalaysiaX2013 -0.23041657 prod4Stranded Wire/Ropes/CablesXMalaysiaX2013 -0.02434267 prod4Sulphur BlackXIndiaX2008 -0.02679521 prod4Synthetic Fabrics ("Lycra")XBrazilX2011 -0.02909228 prod4SyringesXUkraineX2009 -0.04222208 prod4Thionyl ChlorideXIndiaX2009 -1.04525253

prod4Tires for Trucks and BusesXColombiaX2013 -1.02005303 prod4Tyre Curing PressesXIndiaX2009 -0.12752976 prod4Uncoated Certain Cut Sheet PaperXJapanX2013 -1.03938202 prod4Uncolored Float GlassXTurkeyX2013 -0.02680825 prod4USB Flash DrivesXIndiaX2014 -1.03247338 prod4Wind TowersXAustraliaX2014 -0.00619741 prod4Women's UndergarmentsXColombiaX2007 -1.03934740 prod4Yarn of Man Made or Synthetic or Artificial Staple FibresXTurkeyX2014 0.30545004 prod4Zinc Coated (Galvanised) Steel and Aluminium Zinc Coated SteelXAustraliaX2013 -0.36060432 Std. Error (Intercept) 0.58292936 I(fixed_assets/total_assets) 0.04460134 scale(SLX) 0.04861181 log(revenue) 0.01766193 log(total_assets) 0.01898106 log(taxation + 119067.3) 0.05242963 log(capital + 0.5) 0.00438500 scale_slx2 0.59141084 scale_slx3 0.47585634 scale_slx4 0.16993514 scale_slx5 0.02377727 prod40XIndiaX2008 0.05091736 prod4Aluminum FoilXTurkeyX2014 0.10428099 prod4Articulated Link Chain and Parts thereofXTurkeyX2010 0.10436299 prod4Benzoyl PeroxideXSouth KoreaX2008 0.10433392 prod4Bias Tyres for Bus and Lorries/TrucksXIndiaX2007 0.04476854 prod4Biaxially Oriented Polypropylene FilmsXMalaysiaX2013 0.08058003 prod4BlendersXColombiaX2009 0.10365011 prod4BoltsXColombiaX2009 0.05819986 prod4Bond PaperXMexicoX2013 0.08551464 prod4Cathode Ray Colour Television Picture TubesXIndiaX2009 0.03307388 prod4Ceftriaxone Sodium SterileXIndiaX2008 0.05927261 prod4Cellophane Transparent FilmXIndiaX2006 0.06927171 prod4Ceramic TilesXIndiaX2009 0.05875344 prod4Ceramic TilesXSouth KoreaX2006 0.07876608 prod4Certain Aluminium ExtrusionsXAustraliaX2010 0.10890474 prod4Certain Concrete Reinforcing BarXCanadaX2015 0.07372240 prod4Certain FabricsXTurkeyX2009 0.05166021 prod4Certain Glass Fibre and articles thereofXIndiaX2011 0.06870428 prod4Certain Hollow Structural SectionsXAustraliaX2009 0.10974332 prod4Certain Hollow Structural SectionsXAustraliaX2012 0.08121667 prod4Certain Made-Up Textile Articles and Fabrics Made of Artificial or Synthetics FibersXTurkeyX2010 0.06472829 prod4Certain Oil Country Tubular GoodsXCanadaX2010 0.10693130 prod4Certain Oil Country Tubular GoodsXUSAX2014 0.07535861 prod4Certain Polyester Staple FiberXUSAX2007 0.10867744 prod4Certain Steel NailsXUSAX2008 0.12020647 prod4Choline ChlorideXIndiaX2012 0.05565940 prod4Citric AcidXRussiaX2015 0.10545742 prod4Coated Paper and CardboardXArgentinaX2012 0.06779024 prod4Cold-Rolled Flat Products of Stainless SteelXIndiaX2009 0.04783841 prod4Cold-rolled Flat Steel Products with Polymer CoatingXRussiaX2009 0.25375494 prod4Cold-rolled Flat Steel Products with Polymer CoatingXRussiaX2012 0.07381081 prod4Cold-rolled Flat Steel ProductsXRussiaX2007 0.11295643 prod4Cold-Rolled Iron and Non-Alloy Steel SheetsXMexicoX2013 0.10844681 prod4Cold-worked Seamless Pipes and Tubes of Stainless SteelXRussiaX2013 0.06372641 prod4Commercial Vehicle TyresXRussiaX2015 0.06404313 prod4Compact Fluorescent LampsXIndiaX2009 0.07183915 prod4Cored Wire of Base MetalXTurkeyX2011 0.10688827 prod4Crawler DozersXRussiaX2015 0.10615275 prod4Diclofenac SodiumXIndiaX2008 0.06875723 prod4Dioctyl Phthalate (DOP)XTurkeyX2011 0.07476940 prod4Ductile Iron Pipes (DI Pipes)XIndiaX2007 0.06166843 prod4Electic Storage Water HeatersXTurkeyX2013 0.05513466 prod4Electrical InsulatorsXIndiaX2013 0.05323681 prod4Ethanolamines (MEA and TEA)XBrazilX2013 0.08299154 prod4Ethyl AcetateXSouth KoreaX2008 0.06812608 prod4Ethylene-Propylene-Non-Conjugated Diene Rubber (EPDM)XIndiaX2006 0.04892742 prod4Fan CoilXTurkeyX2010 0.10778546 prod4FerrosiliconXUSAX2014 0.10732467 prod4Float GlassXSouth KoreaX2008 0.08017135 prod4Formulated GlyphosateXAustraliaX2013 0.10831054 prod4Frontseating Service ValvesXUSAX2009 0.11131471 prod4Frozen Bone-in Portions of Fowls of the Species Gallus DomesticusXSouth AfricaX2015 0.05239882 prod4Fully Drawn or Fully Oriented Yarn/Spin Draw Yarn Flat Yarn of PolyesterXIndiaX2009 0.12969197 prod4Glass Fiber Reinforcement MaterialsXTurkeyX2010 0.10642424 prod4GlasswareXBrazilX2011 0.07048564 prod4GranitesXTurkeyX2012 0.08205682 prod4Graphite ElectrodesXRussiaX2012 0.08318361 prod4Hoes/Digging Bars/PicksXColombiaX2009 0.10365224 prod4Hot Rolled Plate SteelXAustraliaX2013 0.07091477 prod4Hot Rolled Structural Steel SectionsXAustraliaX2014 0.07025587 prod4Hydrogen PeroxideXIndiaX2008 0.02216604 prod4Instantaneous Gas Water HeatersXTurkeyX2014 0.08222413 prod4Knives for Electromechanical Domestic Kitchen AppliancesXTurkeyX2009 0.10556681 prod4Kraft PaperXSouth KoreaX2008 0.06015070 prod4Lactic AcidXUkraineX2009 0.10878439 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2011 0.06280353 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2012 0.09608813 prod4MalathionXMexicoX2007 0.10453319 prod4Maleic Anhydride (MAN)XIndiaX2008 0.05516980 prod4Medical Glass Containers with Capacity not exceeding 0.15 LXUkraineX2013 0.10563669 prod4Men's UndergarmentsXColombiaX2007 0.07947004 prod4Methylene Diphenyl Diisocyanate (MDI)XBrazilX2015 0.06777252 prod4Mono Ethylene Glycol (Meg)XTurkeyX2010 0.08405217 prod4Mosquito CoilsXPhilippinesX2010 0.10396038 prod4Nap Linen (Including Long Nap) and Terry LinenXUkraineX2009 0.08373517 prod4NutsXColombiaX2009 0.05819986 prod4Nylon Filament YarnXIndiaX2006 0.02403272 prod4Nylon

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prod4PolycarbonatesXBrazilX2013 0.10415938 prod4Polyester YarnXSouth KoreaX2008 0.06080388 prod4Polyethylene Terephthalate Film/Sheet/Strip (PET Film)XUSAX2008 0.07062056 prod4Polypropylene ResinXBrazilX2010 0.08523508 prod4Polypropylene ResinXBrazilX2014 0.08127567 prod4Portland CementXSouth AfricaX2015 0.11128433 prod4Purified Terephthalic AcidXIndiaX2015 0.12834590 prod4Pvc-SXBrazilX2008 0.87155518 prod4Quenched and Tempered Steel PlateXAustraliaX2014 0.07154266 prod4QuicklimeXAustraliaX2013 0.10597280 prod4Reinforced Deformed Bar (Rounds)XIsraelX2009 0.06202100 prod4Rod in CoilsXAustraliaX2015 0.08256512 prod4Rubber Chemicals (MBT/CBS/TDQ/PVI/TMT/PX-13 (6PPD))XIndiaX2008 0.06691478 prod4Rubber Chemicals (PX-13 (6PPD))XIndiaX2008 0.06691478 prod4Rubber Conveyor BeltsXUkraineX2014 0.11507186 prod4SaccharinXIndiaX2007 0.07046297 prod4Seamless steel OCTGXRussiaX2015 0.05939067 prod4Silicon MetalXAustraliaX2015 0.10490006 prod4SocksXColombiaX2007 0.10502007 prod4Sodium Formaldehyde 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prod4Uncolored Float GlassXTurkeyX2013 0.10622140 prod4USB Flash DrivesXIndiaX2014 0.07104222 prod4Wind TowersXAustraliaX2014 0.08240209 prod4Women’s UndergarmentsXColombiaX2007 0.10400164 prod4Yarn of Man Made or Synthetic or Artificial Staple FibresXTurkeyX2014 0.04537008 prod4Zinc Coated (Galvanised) Steel and Aluminium Zinc Coated SteelXAustraliaX2013 0.07610118 z value (Intercept) 0.5182 I(fixed_assets/total_assets) 2.6762 scale(SLX) 6.4135 log(revenue) 0.1940 log(total_assets) -0.7520 log(taxation + 119067.3) 1.7327 log(capital + 0.5) 0.4316 scale_slx2 -3.0415 scale_slx3 2.0630 scale_slx4 4.6519 scale_slx5 3.7801 prod40XIndiaX2008 -0.7436 prod4Aluminum FoilXTurkeyX2014 -0.3872 prod4Articulated Link Chain and Parts thereofXTurkeyX2010 -0.5985 prod4Benzoyl PeroxideXSouth KoreaX2008 -0.6179 prod4Bias Tyres for Bus and Lorries/TrucksXIndiaX2007 4.2434 prod4Biaxially Oriented Polypropylene FilmsXMalaysiaX2013 -0.3437 prod4BlendersXColombiaX2009 -10.0882 prod4BoltsXColombiaX2009 -0.3826 prod4Bond PaperXMexicoX2013 -1.5319 prod4Cathode Ray Colour Television Picture TubesXIndiaX2009 -1.1233 prod4Ceftriaxone Sodium SterileXIndiaX2008 -0.0665 prod4Cellophane Transparent FilmXIndiaX2006 -0.5096 prod4Ceramic TilesXIndiaX2009 -0.4953 prod4Ceramic TilesXSouth KoreaX2006 -0.4871 prod4Certain Aluminium ExtrusionsXAustraliaX2010 -0.1597 prod4Certain Concrete Reinforcing BarXCanadaX2015 -0.3793 prod4Certain FabricsXTurkeyX2009 -20.7062 prod4Certain Glass Fibre and articles thereofXIndiaX2011 -0.7932 prod4Certain Hollow Structural SectionsXAustraliaX2009 -9.1917 prod4Certain Hollow Structural SectionsXAustraliaX2012 0.4261 prod4Certain Made-Up Textile Articles and Fabrics Made of Artificial or Synthetics FibersXTurkeyX2010 -16.0776 prod4Certain Oil Country Tubular GoodsXCanadaX2010 -0.1654 prod4Certain Oil Country Tubular GoodsXUSAX2014 -1.6408 prod4Certain Polyester Staple FiberXUSAX2007 -0.1773 prod4Certain Steel NailsXUSAX2008 -1.0143 prod4Choline ChlorideXIndiaX2012 -0.7035 prod4Citric AcidXRussiaX2015 -0.3277 prod4Coated Paper and CardboardXArgentinaX2012 -0.4667 prod4Cold-Rolled Flat Products of Stainless SteelXIndiaX2009 -3.4325 prod4Cold-rolled Flat

Steel Products with Polymer CoatingXRussiaX2009 -7.1388 prod4Cold-rolled Flat Steel Products with Polymer CoatingXRussiaX2012 -3.3079 prod4Cold-rolled Flat Steel ProductsXRussiaX2007 -10.3284 prod4Cold-Rolled Iron and Non-Alloy Steel SheetsXMexicoX2013 -9.3667 prod4Cold-worked Seamless Pipes and Tubes of Stainless SteelXRussiaX2013 -0.3353 prod4Commercial Vehicle TyresXRussiaX2015 -0.7094 prod4Compact Fluorescent LampsXIndiaX2009 -0.1929 prod4Cored Wire of Base MetalXTurkeyX2011 -0.0428 prod4Crawler DozersXRussiaX2015 -0.2269 prod4Diclofenac SodiumXIndiaX2008 -0.4879 prod4Dioctyl Phthalate (DOP)XTurkeyX2011 -0.0351 prod4Ductile Iron Pipes (DI Pipes)XIndiaX2007 -0.1360 prod4Electic Storage Water HeatersXTurkeyX2013 1.3007 prod4Electrical InsulatorsXIndiaX2013 -19.5056 prod4Ethanolamines (MEA and TEA)XBrazilX2013 -0.4399 prod4Ethyl AcetateXSouth KoreaX2008 -0.6701 prod4Ethylene-Propylene-Non-Conjugated Diene Rubber (EPDM)XIndiaX2006 -1.7941 prod4Fan CoilXTurkeyX2010 0.1099 prod4FerrosiliconXUSAX2014 -9.4459 prod4Float GlassXSouth KoreaX2008 -0.4564 prod4Formulated GlyphosateXAustraliaX2013 -9.3657 prod4Frontseating Service ValvesXUSAX2009 -0.7983 prod4Frozen Bone-in Portions of Fowls of the Species Gallus DomesticusXSouth AfricaX2015 0.0332 prod4Fully Drawn or Fully Oriented Yarn/Spin Draw Yarn Flat Yarn of PolyesterXIndiaX2009 0.7555 prod4Glass Fiber Reinforcement MaterialsXTurkeyX2010 -0.2551 prod4GlasswareXBrazilX2011 -0.3458 prod4GranitesXTurkeyX2012 -12.4625 prod4Graphite ElectrodesXRussiaX2012 0.0378 prod4Hoes/Digging Bars/PicksXColombiaX2009 -0.4823 prod4Hot Rolled Plate SteelXAustraliaX2013 -0.3846 prod4Hot Rolled Structural Steel SectionsXAustraliaX2014 -0.8133 prod4Hydrogen PeroxideXIndiaX2008 1.2744 prod4Instantaneous Gas Water HeatersXTurkeyX2014 -0.0601 prod4Knives for Electromechanical Domestic Kitchen AppliancesXTurkeyX2009 -10.2630 prod4Kraft PaperXSouth KoreaX2008 -0.6363 prod4Lactic AcidXUkraineX2009 -0.3398 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2011 -16.4984 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2012 -9.8948 prod4MalathionXMexicoX2007 -10.2054 prod4Maleic Anhydride (MAN)XIndiaX2008 -0.1163 prod4Medical Glass Containers with Capacity not exceeding 0.15 LXUkraineX2013 -0.4846 prod4Men's UndergarmentsXColombiaX2007 -12.9183 prod4Methylene Diphenyl Diisocyanate (MDI)XBrazilX2015 -14.7092 prod4Mono Ethylene Glycol (Meg)XTurkeyX2010 -0.2235 prod4Mosquito CoilsXPhilippinesX2010 -10.3363 prod4Nap Linen (Including Long Nap) and Terry LinenXUkraineX2009 -0.1491 prod4NutsXColombiaX2009 -17.5648 prod4Nylon Filament YarnXIndiaX2006 2.1968 prod4Nylon Tyre Cord FabricsXIndiaX2009 -1.0321 prod4Opal GlasswareXIndiaX2011 -0.9456 prod4Oriented Strand Board (Osb)XTurkeyX2008 -0.5321 prod4Partially Oriented Yarn (POY)XIndiaX2007 -0.7811 prod4PentaerythritolXIndiaX2006 -0.8930 prod4PentaerythritolXIndiaX2013 -18.9184 prod4Peroxosulphates (also known as Persulphates)XIndiaX2014 -13.4804 prod4PET FilmXSouth KoreaX2008 -0.2488 prod4PhenolXIndiaX2008 -0.6800 prod4Phosphoric Acid - Technical Grade and Food GradeXIndiaX2008 -0.5980 prod4Phosphoric Acid of All Grades and All Concentrations Excluding Agriculture Fertilizer GradeXIndiaX2009 -0.7093 prod4Plain Medium Density Fibre BoardXIndiaX2009 -5.2572 prod4Plates/Sheets/Film/Foil and Strip of Polymers of Vinyl Chloride (PVC)XSouth AfricaX2008 -0.2653 prod4Polvinyl AlcoholXSouth KoreaX2006 0.0057 prod4Poly Vinyl Chloride (PVC) - Suspension GradeXIndiaX2007 -1.6356 prod4Poly Vinyl Chloride Paste Resin (PVC Paste Resin)XIndiaX2011 -15.2495 prod4PolycarbonatesXBrazilX2013 -10.0071 prod4Polyester YarnXSouth KoreaX2008 -0.9810 prod4Polyethylene Terephthalate Film/Sheet/Strip (PET Film)XUSAX2008 -0.1845 prod4Polypropylene ResinXBrazilX2010 -5.9863 prod4Polypropylene ResinXBrazilX2014 -1.0932 prod4Portland CementXSouth AfricaX2015 -0.3611 prod4Purified Terephthalic AcidXIndiaX2015 -9.4894 prod4Pvc-SXBrazilX2008 1.6853 prod4Quenched and Tempered Steel PlateXAustraliaX2014 -0.3780 prod4QuicklimeXAustraliaX2013 -10.1194 prod4Reinforced Deformed Bar (Rounds)XIsraelX2009 -16.3300 prod4Rod in CoilsXAustraliaX2015 -3.8047 prod4Rubber Chemicals (MBT/CBS/TDQ/PVI/TMT/PX-13 (6PPD))XIndiaX2008 -0.9433 prod4Rubber Chemicals (PX-13 (6PPD))XIndiaX2008 -0.9433 prod4Rubber Conveyor BeltsXUkraineX2014 -8.5432 prod4SaccharinXIndiaX2007 -0.4448 prod4Seamless steel OCTGXRussiaX2015 -0.3801 prod4Silicon MetalXAustraliaX2015 -0.2719 prod4SocksXColombiaX2007 -9.6625 prod4Sodium Formaldehyde Sulfoxylate (SFS)XTaiwanX2010 -0.3323 prod4Sodium Formaldehyde Sulphoxylate (SFS)XIndiaX2006 -0.2708 prod4Stainless Steel Cold Rolled Flat ProductsXEuropean UnionX2009 -15.0037 prod4Stainless Steel Cold Rolled Flat ProductsXIndiaX2013 -17.6239 prod4Stainless Steel FlatwareXRussiaX2015 -0.3769 prod4Stainless Steel Tubes and PipesXSouth AfricaX2006 -11.0804 prod4Steel Railway WheelsXRussiaX2015 -0.0658 prod4Steel Reinforcing BarXAustraliaX2015 0.2467 prod4Steel SheetsXMexicoX2014 -0.3015 prod4Steel WheelsXIndiaX2007 -0.3099 prod4Steel Wire RodXMalaysiaX2013 -3.6872 prod4Stranded Wire/Ropes/CablesXMalaysiaX2013 -0.2275 prod4Sulphur BlackXIndiaX2008 -0.4553 prod4Synthetic Fabrics

("Lycra")XBrazilX2011 -0.2776 prod4SyringesXUkraineX2009 -0.7967 prod4Thionyl ChlorideXIndiaX2009 -18.4186 prod4Tires for Trucks and BusesXColombiaX2013 -12.7967 prod4Tyre Curing PressesXIndiaX2009 -1.2750 prod4Uncoated Certain Cut Sheet PaperXJapanX2013 -16.3373 prod4Uncolored Float GlassXTurkeyX2013 -0.2524 prod4USB Flash DrivesXIndiaX2014 -14.5332 prod4Wind TowersXAustraliaX2014 -0.0752 prod4Women's UndergarmentsXColombiaX2007 -9.9936 prod4Yarn of Man Made or Synthetic or Artificial Staple FibresXTurkeyX2014 6.7324 prod4Zinc Coated (Galvanised) Steel and Aluminium Zinc Coated SteelXAustraliaX2013 -4.7385 Pr(>|z|) (Intercept) 0.6043495 I(fixed_assets/total_assets) 0.0074460 scale(SLX) 1.422e-10 log(revenue) 0.8461699 log(total_assets) 0.4520409 log(taxation + 119067.3) 0.0831427 log(capital + 0.5) 0.6660215 scale_slx2 0.0023538 scale_slx3 0.0391153 scale_slx4 3.289e-06 scale_slx5 0.0001568 prod40XIndiaX2008 0.4570945 prod4Aluminum FoilXTurkeyX2014 0.6986019 prod4Articulated Link Chain and Parts thereofXTurkeyX2010 0.5495319 prod4Benzoyl PeroxideXSouth KoreaX2008 0.5366293 prod4Bias Tyres for Bus and Lorries/TrucksXIndiaX2007 2.201e-05 prod4Biaxially Oriented Polypropylene FilmsXMalaysiaX2013 0.7310405 prod4BlendersXColombiaX2009 < 2.2e-16 prod4BoltsXColombiaX2009 0.7020258 prod4Bond PaperXMexicoX2013 0.1255524 prod4Cathode Ray Colour Television Picture TubesXIndiaX2009 0.2613233 prod4Ceftriaxone Sodium SterileXIndiaX2008 0.9470162 prod4Cellophane Transparent FilmXIndiaX2006 0.6103528 prod4Ceramic TilesXIndiaX2009 0.6203991 prod4Ceramic TilesXSouth KoreaX2006 0.6261971 prod4Certain Aluminium ExtrusionsXAustraliaX2010 0.8731095 prod4Certain Concrete Reinforcing BarXCanadaX2015 0.7044577 prod4Certain FabricsXTurkeyX2009 < 2.2e-16 prod4Certain Glass Fibre and articles thereofXIndiaX2011 0.4276413 prod4Certain Hollow Structural SectionsXAustraliaX2009 < 2.2e-16 prod4Certain Hollow Structural SectionsXAustraliaX2012 0.6700417 prod4Certain Made-Up Textile Articles and Fabrics Made of Artificial or Synthetics FibersXTurkeyX2010 < 2.2e-16 prod4Certain Oil Country Tubular GoodsXCanadaX2010 0.8686263 prod4Certain Oil Country Tubular GoodsXUSAX2014 0.1008341 prod4Certain Polyester Staple FiberXUSAX2007 0.8593096 prod4Certain Steel NailsXUSAX2008 0.3104632 prod4Choline ChlorideXIndiaX2012 0.4817189 prod4Citric AcidXRussiaX2015 0.7431131 prod4Coated Paper and CardboardXArgentinaX2012 0.6407399 prod4Cold-Rolled Flat Products of Stainless SteelXIndiaX2009 0.0005980 prod4Cold-rolled Flat Steel Products with Polymer CoatingXRussiaX2009 9.419e-13 prod4Cold-rolled Flat Steel Products with Polymer CoatingXRussiaX2012 0.0009399 prod4Cold-rolled Flat Steel ProductsXRussiaX2007 < 2.2e-16 prod4Cold-Rolled Iron and Non-Alloy Steel SheetsXMexicoX2013 < 2.2e-16 prod4Cold-worked Seamless Pipes and Tubes of Stainless SteelXRussiaX2013 0.7374308 prod4Commercial Vehicle TyresXRussiaX2015 0.4780660 prod4Compact Fluorescent LampsXIndiaX2009 0.8470675 prod4Cored Wire of Base MetalXTurkeyX2011 0.9658325 prod4Crawler DozersXRussiaX2015 0.8205385 prod4Diclofenac SodiumXIndiaX2008 0.6256485 prod4Dioctyl Phthalate (DOP)XTurkeyX2011 0.9719999 prod4Ductile Iron Pipes (DI Pipes)XIndiaX2007 0.8918483 prod4Electic Storage Water HeatersXTurkeyX2013 0.1933767 prod4Electrical InsulatorsXIndiaX2013 < 2.2e-16 prod4Ethanolamines (MEA and TEA)XBrazilX2013 0.6599803 prod4Ethyl AcetateXSouth KoreaX2008 0.5027990 prod4Ethylene-Propylene-Non-Conjugated Diene Rubber (EPDM)XIndiaX2006 0.0727930 prod4Fan CoilXTurkeyX2010 0.9124848 prod4FerrosiliconXUSAX2014 < 2.2e-16 prod4Float GlassXSouth KoreaX2008 0.6480819 prod4Formulated GlyphosateXAustraliaX2013 < 2.2e-16 prod4Frontseating Service ValvesXUSAX2009 0.4246951 prod4Frozen Bone-in Portions of Fowls of the Species Gallus DomesticusXSouth AfricaX2015 0.9735132 prod4Fully Drawn or Fully Oriented Yarn/Spin Draw Yarn Flat Yarn of PolyesterXIndiaX2009 0.4499650 prod4Glass Fiber Reinforcement MaterialsXTurkeyX2010 0.7986087 prod4GlasswareXBrazilX2011 0.7294724 prod4GranitesXTurkeyX2012 < 2.2e-16 prod4Graphite ElectrodesXRussiaX2012 0.9698198 prod4Hoes/Digging Bars/PicksXColombiaX2009 0.6295733 prod4Hot Rolled Plate SteelXAustraliaX2013 0.7005634 prod4Hot Rolled Structural Steel SectionsXAustraliaX2014 0.4160194 prod4Hydrogen PeroxideXIndiaX2008 0.2025271 prod4Instantaneous Gas Water HeatersXTurkeyX2014 0.9520419 prod4Knives for Electromechanical Domestic Kitchen AppliancesXTurkeyX2009 < 2.2e-16 prod4Kraft PaperXSouth KoreaX2008 0.5245652 prod4Lactic AcidXUkraineX2009 0.7339869 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2011 < 2.2e-16 prod4Low-carbon/Low-alloy Steel SheetsXBrazilX2012 < 2.2e-16 prod4MalathionXMexicoX2007 < 2.2e-16 prod4Maleic Anhydride (MAN)XIndiaX2008 0.9073880 prod4Medical Glass Containers with Capacity not exceeding 0.15 LXUkraineX2013 0.6279435 prod4Men's UndergarmentsXColombiaX2007 < 2.2e-16 prod4Methylene Diphenyl Diisocyanate (MDI)XBrazilX2015 < 2.2e-16 prod4Mono Ethylene Glycol (Meg)XTurkeyX2010 0.8231778 prod4Mosquito CoilsXPhilippinesX2010 < 2.2e-16 prod4Nap Linen (Including Long Nap) and Terry LinenXUkraineX2009 0.8815083 prod4NutsXColombiaX2009 < 2.2e-16 prod4Nylon Filament YarnXIndiaX2006 0.0280315 prod4Nylon Tyre Cord FabricsXIndiaX2009

0.3020299 prod4Opal GlasswareXIndiaX2011 0.3443624 prod4Oriented Strand Board (Osb)XTurkeyX2008 0.5946375 prod4Partially Oriented Yarn (POY)XIndiaX2007 0.4347317 prod4PentaerythritolXIndiaX2006 0.3718340 prod4PentaerythritolXIndiaX2013 < 2.2e-16 prod4Peroxosulphates (also known as Persulphates)XIndiaX2014 < 2.2e-16 prod4PET FilmXSouth KoreaX2008 0.8034850 prod4PhenolXIndiaX2008 0.4965287 prod4Phosphoric Acid - Technical Grade and Food GradeXIndiaX2008 0.5498486 prod4Phosphoric Acid of All Grades and All Concentrations Excluding Agriculture Fertilizer GradeXIndiaX2009 0.4781161 prod4Plain Medium Density Fibre BoardXIndiaX2009 1.462e-07 prod4Plates/Sheets/Film/Foil and Strip of Polymers of Vinyl Chloride (PVC)XSouth AfricaX2008 0.7907570 prod4Polvinyl AlcoholXSouth KoreaX2006 0.9954321 prod4Poly Vinyl Chloride (PVC) - Suspension GradeXIndiaX2007 0.1019140 prod4Poly Vinyl Chloride Paste Resin (PVC Paste Resin)XIndiaX2011 < 2.2e-16 prod4PolycarbonatesXBrazilX2013 < 2.2e-16 prod4Polyester YarnXSouth KoreaX2008 0.3266029 prod4Polyethylene Terephthalate Film/Sheet/Strip (PET Film)XUSAX2008 0.8536405 prod4Polypropylene ResinXBrazilX2010 2.147e-09 prod4Polypropylene ResinXBrazilX2014 0.2743244 prod4Portland CementXSouth AfricaX2015 0.7180126 prod4Purified Terephthalic AcidXIndiaX2015 < 2.2e-16 prod4Pvc-SXBrazilX2008 0.0919326 prod4Quenched and Tempered Steel PlateXAustraliaX2014 0.7054035 prod4QuicklimeXAustraliaX2013 < 2.2e-16 prod4Reinforced Deformed Bar (Rounds)XIsraelX2009 < 2.2e-16 prod4Rod in CoilsXAustraliaX2015 0.0001420 prod4Rubber Chemicals (MBT/CBS/TDQ/PVI/TMT/PX-13 (6PPD))XIndiaX2008 0.3455045 prod4Rubber Chemicals (PX-13 (6PPD))XIndiaX2008 0.3455045 prod4Rubber Conveyor BeltsXUkraineX2014 < 2.2e-16 prod4SaccharinXIndiaX2007 0.6564571 prod4Seamless steel OCTGXRussiaX2015 0.7038560 prod4Silicon MetalXAustraliaX2015 0.7857208 prod4SocksXColombiaX2007 < 2.2e-16 prod4Sodium Formaldehyde Sulfoxylate (SFS)XTaiwanX2010 0.7396602 prod4Sodium Formaldehyde Sulphoxylate (SFS)XIndiaX2006 0.7865750 prod4Stainless Steel Cold Rolled Flat ProductsXEuropean UnionX2009 < 2.2e-16 prod4Stainless Steel Cold Rolled Flat ProductsXIndiaX2013 < 2.2e-16 prod4Stainless Steel FlatwareXRussiaX2015 0.7062157 prod4Stainless Steel Tubes and PipesXSouth AfricaX2006 < 2.2e-16 prod4Steel Railway WheelsXRussiaX2015 0.9475356 prod4Steel Reinforcing BarXAustraliaX2015 0.8051321 prod4Steel SheetsXMexicoX2014 0.7630140 prod4Steel WheelsXIndiaX2007 0.7566712 prod4Steel Wire RodXMalaysiaX2013 0.0002267 prod4Stranded Wire/Ropes/CablesXMalaysiaX2013 0.8200600 prod4Sulphur BlackXIndiaX2008 0.6488694 prod4Synthetic Fabrics ("Lycra")XBrazilX2011 0.7813266 prod4SyringesXUkraineX2009 0.4256026 prod4Thionyl ChlorideXIndiaX2009 < 2.2e-16 prod4Tires for Trucks and BusesXColombiaX2013 < 2.2e-16 prod4Tyre Curing PressesXIndiaX2009 0.2023246 prod4Uncoated Certain Cut Sheet PaperXJapanX2013 < 2.2e-16 prod4Uncolored Float GlassXTurkeyX2013 0.8007467 prod4USB Flash DrivesXIndiaX2014 < 2.2e-16 prod4Wind TowersXAustraliaX2014 0.9400481 prod4Women's UndergarmentsXColombiaX2007 < 2.2e-16 prod4Yarn of Man Made or Synthetic or Artificial Staple FibresXTurkeyX2014 1.669e-11 prod4Zinc Coated (Galvanised) Steel and Aluminium Zinc Coated SteelXAustraliaX2013 2.153e-06

Rho: -0.018922, LR test value: 28.983, p-value: 7.3033e-08 Asymptotic standard error: 0.0022558 z-value: -8.3881, p-value: < 2.22e-16 Wald statistic: 70.36, p-value: < 2.22e-16

Log likelihood: 952.4687 for lag model ML residual variance (sigma squared): 0.0091498, (sigma: 0.095655) Number of observations: 1030 Number of parameters estimated: 150 AIC: -1604.9, (AIC for lm: -1578) LM test for residual autocorrelation test value: 84.327, p-value: < 2.22e-16

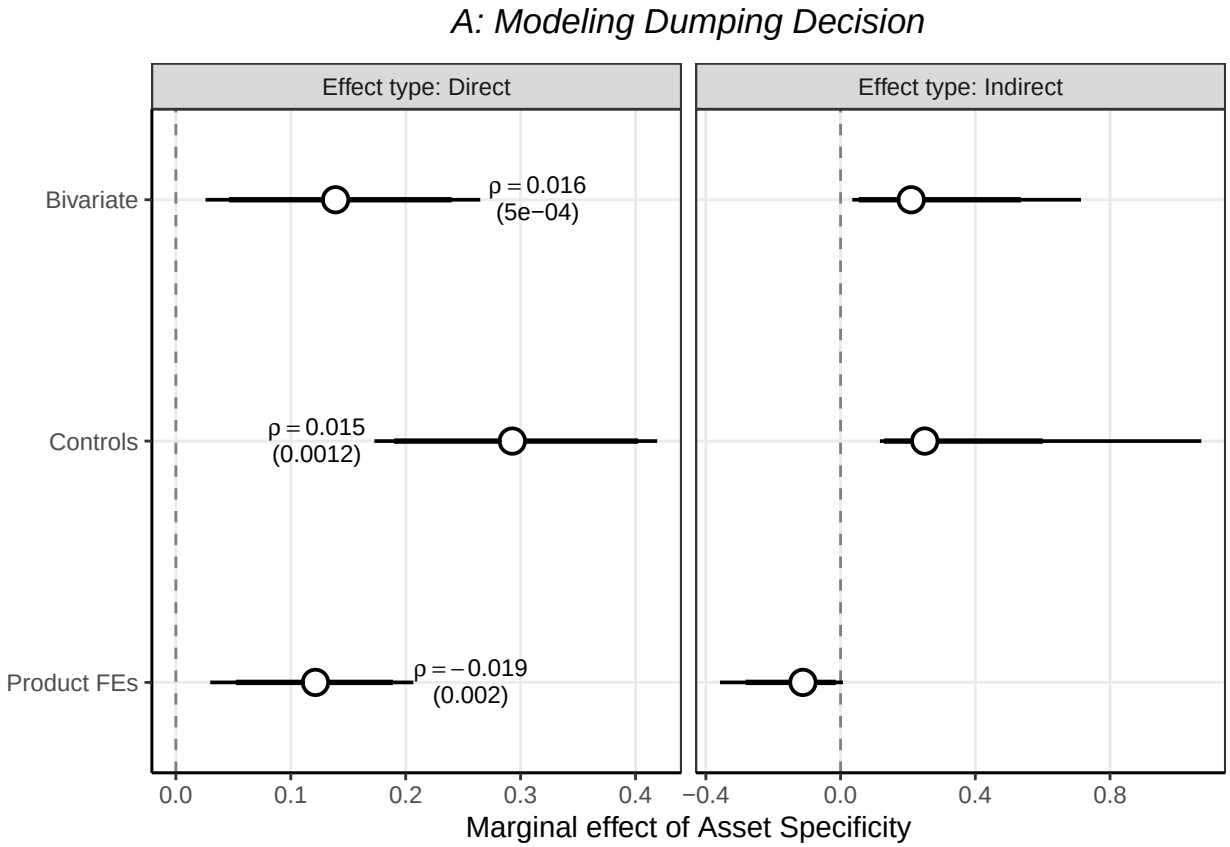
```
set.seed(888)

prod.boots <- impacts(dec.prod, listw = panel.weight, R = 500, zstats = T)
#summary(prod.boots)

# direct effects
pred.res2 <-as.data.frame(prod.boots$sres$direct)
pred.res2 <- pred.res2[,1]
pred.res2 <- data.frame(PE = median(pred.res2), t(quantile(pred.res2, probs=c(0.025,0.05,0.95,0.975), na
pred.res2$var <- c("Capital Mobility")

#indirect effects
```

```r
pred.res2.indir <-as.data.frame(prod.boots$sres$indirect)
pred.res2.indir <- pred.res2.indir[,1:6]
pred.res2.indir <- data.frame(PE = apply(pred.res2.indir,2,median), t(apply(pred.res2.indir,2,quantile,
pred.res2.indir$var <- c("Capital Mobility")

#-------------------------------------------------
# plot dumping decision results


direct <- rbind(dec.biv.sims[1,], cont.sims[1,], pred.res2[1,])
direct$model <- c("Bivariate", "Controls", "Product FEs")
#direct$model <- c(rep("A: Bivariate",2), rep("B: Multivariate", 10), rep("C: Product FEs", 10))
direct$type <- "Effect type: Direct"

indirect <- rbind(biv.sims.indir[1,], cont.sims.indir[1,], prod.res.indir[1,])
indirect$model <- c("Bivariate", "Controls", "Product FEs")
indirect$type <- "Effect type: Indirect"

effects <- rbind(direct, indirect)
effects$ordering <- c(3, 2, 1, 3, 2, 1)
effects$rho.se <- c(round(dec.biv$rho.se, digits = 4),
                    round(dec.mod$rho.se, digits = 4),
                    round(dec.prod$rho.se, digits = 3), NA, NA, NA)
effects$rho <- c(round(dec.biv$rho, digits = 3),
                 round(dec.mod$rho, digits = 3),
                 round(dec.prod$rho, digits = 3), NA, NA, NA)
#effects$ordering <- c(1,2, 1, 2, 3,4,5,6,7,8,9,10, 1,2,3,4,5,6,7,8,9,10)
names(effects)[2:5] <- c("lwr95", "lwr90", "upr90", "upr95")


cols <- c("direct" = "black", "indirect" = "grey")


ann_text <- data.frame(PE =c(effects$upr95[1]+0.05,
                             effects$lwr95[2] - 0.05,
                             effects$upr95[3] + 0.05),
                       ordering = c(3.05, 2.05, 1.05, 3, 2, 1),
                       lab = effects$rho, lab.se = effects$rho.se,
                       type = factor(c("Effect type: Direct", "Effect type: Direct", "Effect type: Dire
                                       "Effect type: Indirect","Effect type: Indirect", "Effect type: I
                                     levels = c("Effect type: Direct", "Effect type: Indirect")))
ann_text2 <- data.frame(PE = c(effects$upr95[1]+0.05,
                               effects$lwr95[2] - 0.05,
                               effects$upr95[3] + 0.05),
                        ordering = c(2.95, 1.95, 0.95, 3, 2, 1),
                        lab = effects$rho, lab.se = effects$rho.se,
                        type = factor(c("Effect type: Direct", "Effect type: Direct", "Effect type: Dir
                                        "Effect type: Indirect","Effect type: Indirect", "Effect type:
                                      levels = c("Effect type: Direct", "Effect type: Indirect")))

ann_text$cors <- paste(c("rho==", "rho==", "rho==", NA, NA, NA), c(ann_text$lab[1:3]),
                       sep = "")
ann_text$cors[4:6] <- NA
```

```r
ann_text2$SEs <- paste("(", ann_text$lab.se, ")",
                       sep = "")
ann_text2$SEs[4:6] <- NA


#plot the  results

dec.plot <- ggplot(effects, aes(x = ordering, y = PE)) +
  geom_hline(yintercept = 0, colour = gray(1/2), lty = 2)+
  # geom_linerange(aes(x =ordering, ymin = lwr90_2,
  #                    ymax = upr90_2),
  #                lwd = 1, position = position_dodge(width = 1/2)) +
  geom_pointrange(aes(x =  ordering, y = PE, ymin = lwr95,
                      ymax = upr95),
                  lwd = 0.65, position = position_dodge(width = 1/2),
                  shape = 21, fill = "WHITE")  +
  geom_pointrange(aes(x =  ordering, y = PE, ymin = lwr90,
                      ymax = upr90),
                  lwd = 0.95, position = position_dodge(width = 1/2),
                  shape = 21, fill = "WHITE") +
  facet_wrap(~ type, scales = "free_x") +
  coord_flip() +
  theme_bw() + theme(panel.grid.minor = element_blank(),
                     axis.line = element_line(colour = "black"),
                     plot.title = element_text(hjust = 0.5)) +
  scale_colour_manual(name="Effect Type", values=cols) +
  labs(x = NULL, y = "Marginal effect of Asset Specificity") +
  ggtitle(expression(italic("A: Modeling Dumping Decision"))) +
  geom_text(data = ann_text, aes(label = cors), size = 3, parse = T) +
  geom_text(data = ann_text2, aes(label = SEs), size = 3) +
  scale_x_continuous(breaks = c(1, 2, 3),
                     labels = c("Product FEs", "Controls", "Bivariate"))

dec.plot
```

```
## Warning: Removed 3 rows containing missing values (geom_text).
```

```
## Warning: Removed 3 rows containing missing values (geom_text).
```




```
p<-plot_grid(dec.plot, spat.plot, nrow= 2)
```

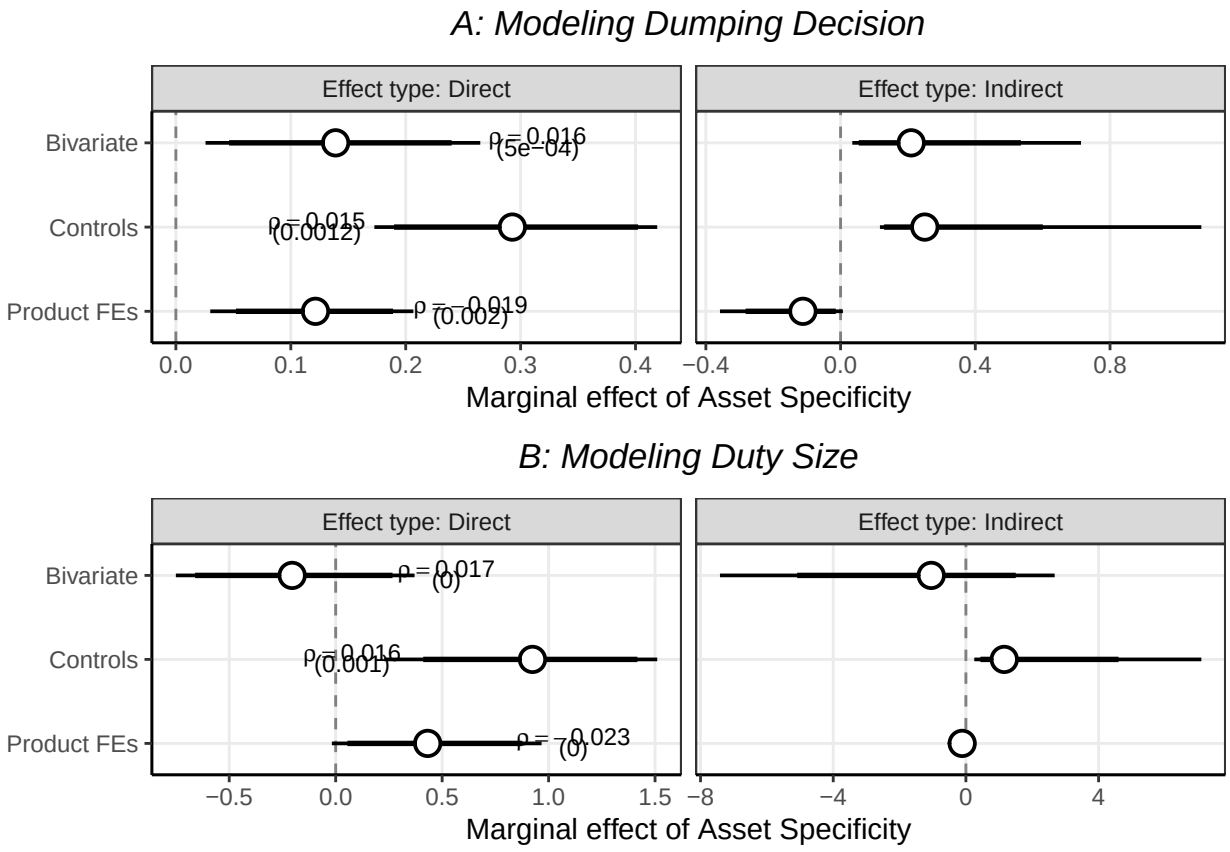
```
## Warning: Removed 3 rows containing missing values (geom_text).
```

```
## Warning: Removed 3 rows containing missing values (geom_text).
```

```
## Warning: Removed 3 rows containing missing values (geom_text).
```

```
## Warning: Removed 3 rows containing missing values (geom_text).
```

```
p
```




```
# ggsave(plot = p,
#        filename = "images/results.eps",
#        device = cairo_ps,
#        height = 10,
#        width = 8)
```

Figure 5

```
##########################################
# FIGURE 5: Heterogeneous Effects

# function for computing marginal effects

marginsplotdf<-function(model, xterm, zterm, zseq){
  coefs<-coef(model)
  cov<-vcov(model)
  intterm<-ifelse(is.na(coefs[paste(xterm,zterm,sep=":")]),paste(zterm,xterm,sep=":"),paste(xterm,zterm
  dy.dx<-coefs[xterm]+coefs[intterm]*zseq
  se.dy.dx<-sqrt(cov[xterm,xterm]+zseq^2*cov[intterm,intterm]+zseq*2*cov[xterm,intterm])
  CI <- data.frame(lwr95 = dy.dx-(1.96*se.dy.dx),
                   lwr90 = dy.dx-(1.68*se.dy.dx),
                   upr90 = dy.dx+(1.68*se.dy.dx),
                   upr95 = dy.dx+(1.96*se.dy.dx))

  margins<-data.frame(z=zseq,dydx=dy.dx,se=se.dy.dx, CI)
  return(margins)
```

```
}


#-----------------------------------------------
# Estimate interactions

dec_rev <- lagsarlm(decision ~ mobility*log_rev+ SLX +
                      log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                      scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 +
                      AD_CTY_NAME,
                    data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-1
summary(dec_rev)
```

Call: lagsarlm(formula = decision ~ mobility * log_rev + SLX + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.066874 -0.053525 0.023940 0.167940 0.883474

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 0.9804285 0.2508970 3.9077 9.318e-05 mobility 1.2878598 0.2449651 5.2573 1.462e-07 log_rev 0.1262063 0.0239849 5.2619 1.426e-07 SLX -0.0075110 0.0029525 -2.5439 0.0109609 log(total_assets) -0.0813041 0.0232053 -3.5037 0.0004589 log(taxation + 119067.3) -0.0565884 0.0112365 -5.0361 4.750e-07 log(capital + 0.5) -0.0025334 0.0067884 -0.3732 0.7090060 scale_slx2 1.7611786 0.2843835 6.1930 5.904e-10 scale_slx3 -1.4071654 0.2422153 -5.8096 6.264e-09 scale_slx4 -0.3981509 0.1865737 -2.1340 0.0328416 scale_slx5 -0.0555602 0.0258306 -2.1509 0.0314803 AD_CTY_NAMEAustralia -0.1499017 0.1457861 -1.0282 0.3038412 AD_CTY_NAMEBrazil -0.6259645 0.1466708 -4.2678 1.974e-05 AD_CTY_NAMECanada -0.0336026 0.1936905 -0.1735 0.8622693 AD_CTY_NAMEColombia -0.5315418 0.1524891 -3.4858 0.0004907 AD_CTY_NAMEEuropean Union -0.9430342 0.1780192 -5.2974 1.175e-07 AD_CTY_NAMEIndia -0.2184809 0.1395553 -1.5656 0.1174539 AD_CTY_NAMEIsrael -1.0092723 0.1843522 -5.4747 4.383e-08 AD_CTY_NAMEJapan -0.9541191 0.1843915 -5.1744 2.286e-07 AD_CTY_NAMEMalaysia 0.0358672 0.1643095 0.2183 0.8272029 AD_CTY_NAMEMexico -0.4878887 0.1862093 -2.6201 0.0087902 AD_CTY_NAMEPhilippines -1.0707792 0.3095989 -3.4586 0.0005430 AD_CTY_NAMERussia -0.0434206 0.1468841 -0.2956 0.7675270 AD_CTY_NAMESouth Africa -0.1999204 0.1626240 -1.2293 0.2189439 AD_CTY_NAMESouth Korea -0.0333204 0.1500410 -0.2221 0.8242554 AD_CTY_NAMETaiwan 0.0987175 0.3078772 0.3206 0.7484839 AD_CTY_NAMETurkey -0.3171598 0.1419928 -2.2336 0.0255072 AD_CTY_NAMEUkraine -0.0091607 0.1645301 -0.0557 0.9555983 AD_CTY_NAMEUSA -0.0223806 0.1608703 -0.1391 0.8893537 mobility:log_rev -0.0853608 0.0215532

-3.9605 7.480e-05

Rho: 0.011916, LR test value: 26.939, p-value: 2.1001e-07 Asymptotic standard error: 0.0019402 z-value: 6.1418, p-value: 8.161e-10 Wald statistic: 37.721, p-value: 8.161e-10

Log likelihood: -127.3567 for lag model ML residual variance (sigma squared): 0.074746, (sigma: 0.2734) Number of observations: 1030 Number of parameters estimated: 32 AIC: 318.71, (AIC for lm: 343.65) LM test for residual autocorrelation test value: 15.314, p-value: 9.1063e-05

```
dec_comp <- lagsarlm(decision ~ mobility*log_comp + log_rev+ SLX +
                       log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                       scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 +
                       AD_CTY_NAME,
                     data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-
summary(dec_comp)
```

Call:lagsarlm(formula = decision ~ mobility * log_comp + log_rev + SLX + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.022578 -0.049069 0.026131 0.150033 0.861779

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 2.0501193 0.1935643 10.5914 < 2.2e-16 mobility -0.6854320 0.1226499 -5.5885 2.290e-08 log_comp -0.1826941 0.0165604 -11.0320 < 2.2e-16 log_rev 0.0685659 0.0211364 3.2440 0.0011787 SLX -0.0052067 0.0032284 -1.6128 0.1067975 log(total_assets) -0.0805791 0.0219125 -3.6773 0.0002357 log(taxation + 119067.3) -0.0543832 0.0107502 -5.0588 4.219e-07 log(capital + 0.5) 0.0018170 0.0065016 0.2795 0.7798859 scale_slx2 1.9935903 0.2747269 7.2566 3.968e-13 scale_slx3 -1.7017703 0.2376096 -7.1620 7.949e-13 scale_slx4 -0.3412433 0.1775060 -1.9224 0.0545514 scale_slx5 -0.0298211 0.0244235 -1.2210 0.2220848 AD_CTY_NAMEAustralia 0.0311230 0.1409300 0.2208 0.8252170 AD_CTY_NAMEBrazil -0.3562300 0.1422151 -2.5049 0.0122498 AD_CTY_NAMECanada 0.0478714 0.1849172 0.2589 0.7957276 AD_CTY_NAMEColombia -0.7710331 0.1447956 -5.3250 1.010e-07 AD_CTY_NAMEEuropean Union -0.6118984 0.1768894 -3.4592 0.0005418 AD_CTY_NAMEIndia 0.0456237 0.1387447 0.3288 0.7422825 AD_CTY_NAMEIsrael -1.0739094 0.1759224 -6.1044 1.032e-09 AD_CTY_NAMEJapan -0.7040206 0.1829523 -3.8481 0.0001190 AD_CTY_NAMEMalaysia 0.1763098 0.1585129 1.1123 0.2660202 AD_CTY_NAMEMexico -0.2473033 0.1792166 -1.3799 0.1676135 AD_CTY_NAMEPhilippines -0.8061682 0.2999928 -2.6873 0.0072034 AD_CTY_NAMERussia 0.1375496 0.1417666 0.9703 0.3319202 AD_CTY_NAMESouth Africa -0.1029378 0.1554206 -0.6623 0.5077677 AD_CTY_NAMESouth Korea 0.0787825 0.1435304 0.5489 0.5830805 AD_CTY_NAMETaiwan 0.1246044 0.2936775 0.4243 0.6713544

AD_CTY_NAMETurkey -0.1380360 0.1379422 -1.0007 0.3169815 AD_CTY_NAMEUkraine 0.0328405 0.1562690 0.2102 0.8335478 AD_CTY_NAMEUSA 0.1712422 0.1545263 1.1082 0.2677863 mobility:log_comp 0.2570851 0.0282496 9.1005 < 2.2e-16

Rho: 0.0095013, LR test value: 17.791, p-value: 2.4653e-05 Asymptotic standard error: 0.0021367 z-value: 4.4467, p-value: 8.7185e-06 Wald statistic: 19.773, p-value: 8.7185e-06

Log likelihood: -78.06702 for lag model ML residual variance (sigma squared): 0.06801, (sigma: 0.26079) Number of observations: 1030 Number of parameters estimated: 33 AIC: 222.13, (AIC for lm: 237.93) LM test for residual autocorrelation test value: 0.10565, p-value: 0.74515

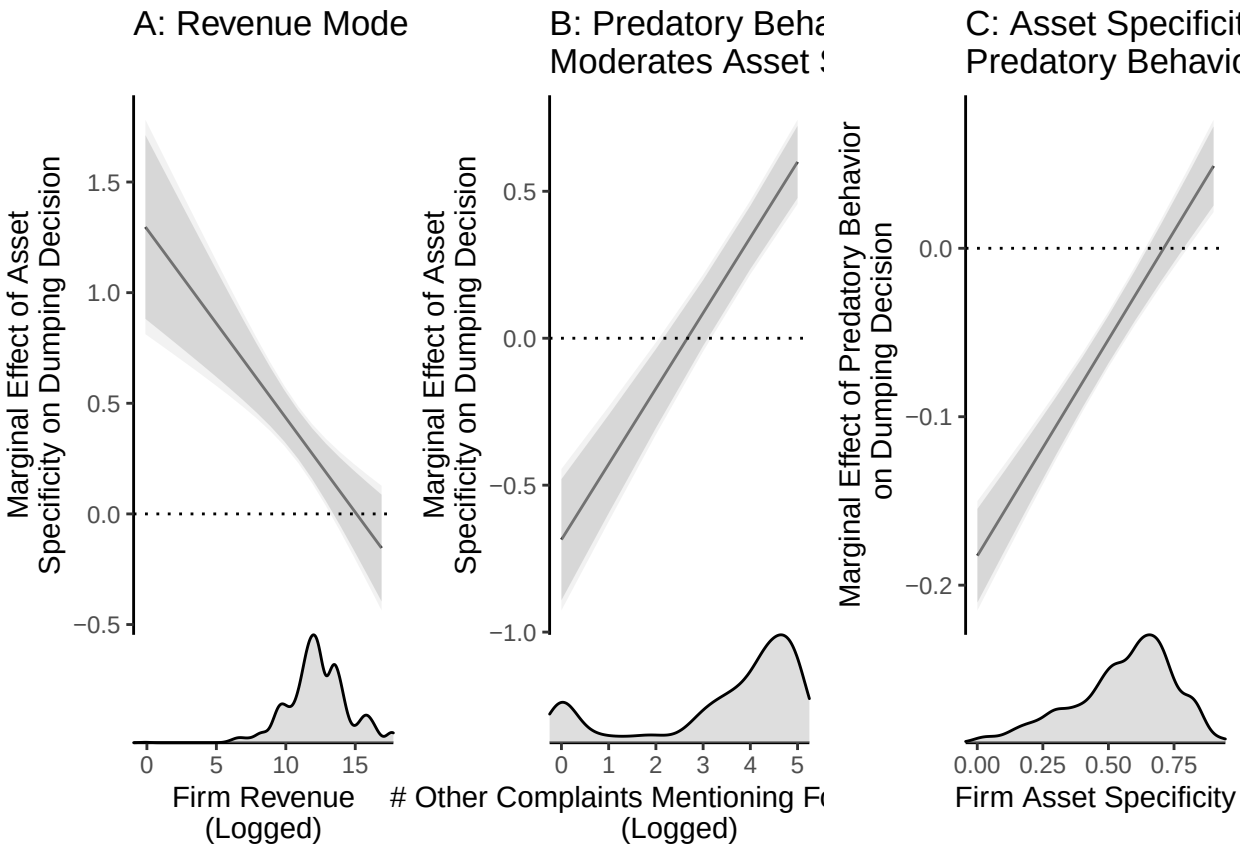
```
#######
# Compute marginal effects

# marginals at levels of logged revenue
marg_rev <- marginsplotdf(dec_rev, xterm = "mobility", zterm = "log_rev",
                          zseq = seq(min(firm_data$log_rev),
                                     max(firm_data$log_rev)))

# marginals of mobility at levels of complaints against foreign firm
marg_comp1 <- marginsplotdf(dec_comp, xterm = "mobility", zterm = "log_comp",
                            zseq = seq(min(firm_data$log_comp),
                                       max(firm_data$log_comp)))

# marginals of complaints at levels of mobility
marg_comp2 <- marginsplotdf(dec_comp, xterm = "log_comp", zterm = "mobility",
                            zseq = seq(min(firm_data$mobility),
                                       max(firm_data$mobility), 0.1))


#-----------------------------------------
# plot marginal effects in Figure 5

#-----------------------------------------------
# Panel A: levels of revenue

A <- ggplot(marg_rev, aes(x = z, y = dydx))+
  geom_line()+
  geom_ribbon(aes(ymin = lwr90, ymax=upr90), fill = "grey",
              alpha=.5)+
  geom_ribbon(aes(ymin = lwr95, ymax=upr95), fill = "grey",
              alpha=.2)+
  theme_classic() +
  geom_hline(yintercept = 0, lty = 3) +
  labs(x = "Firm Revenue\n(Logged)",
       y = "Marginal Effect of Asset\nSpecificity on Dumping Decision",
       title = "A: Revenue Moderates Asset Specificity\n")

# add marginal distribution of logged revenue
a_hist <- axis_canvas(A, axis = "x") +
  geom_density(data = firm_data, aes(x = log_rev),
               fill = "grey", alpha = .5)

combined_A <- insert_xaxis_grob(A, a_hist, position = "bottom")
#ggdraw(combined_A)
```

```
#-------------------------------------------------
# Panel B: levels of complaints

B <- ggplot(marg_comp1, aes(x = z, y = dydx))+
  geom_line()+
  geom_ribbon(aes(ymin = lwr90, ymax=upr90), fill = "grey",
              alpha=.5)+
  geom_ribbon(aes(ymin = lwr95, ymax=upr95), fill = "grey",
              alpha=.2)+
  theme_classic() +
  geom_hline(yintercept = 0, lty = 3) +
  labs(x = "# Other Complaints Mentioning Foreign Firm\n(Logged)",
       y = "Marginal Effect of Asset\nSpecificity on Dumping Decision",
       title = "B: Predatory Behavior by Foreign Firm\nModerates Asset Specificity")

b_hist <- axis_canvas(B, axis = "x") +
  geom_density(data = firm_data, aes(x = log_comp),
               fill = "grey", alpha = .5)
#
combined_B <- insert_xaxis_grob(B, b_hist, position = "bottom")
```

```
## Warning: Removed 73 rows containing non-finite values (stat_density).
```

```
#ggdraw(combined_B)

#-------------------------------------------------------------
# Panel C: Levels of mobility

C <- ggplot(marg_comp2, aes(x = z, y = dydx))+
  geom_line()+
  geom_ribbon(aes(ymin = lwr90, ymax=upr90), fill = "grey",
              alpha=.5)+
  geom_ribbon(aes(ymin = lwr95, ymax=upr95), fill = "grey",
              alpha=.2)+
  theme_classic() +
  geom_hline(yintercept = 0, lty = 3) +
  labs(x = "Firm Asset Specificity\n",
       y = "Marginal Effect of Predatory Behavior\n on Dumping Decision",
       title = "C: Asset Specificity Moderates\nPredatory Behavior by Foreign Firm")

c_hist <- axis_canvas(C, axis = "x") +
  geom_density(data = firm_data, aes(x = mobility),
               fill = "grey", alpha = .5)
#
combined_C <- insert_xaxis_grob(C, c_hist, position = "bottom")
#ggdraw(combined_C)

#-------------------------------------------------
# combine into single plot

full_plot <- plot_grid(combined_A,
                       combined_B,
                       combined_C,
                       nrow = 1)
```

```
ggdraw(full_plot)
```




```
# export if needed
# ggsave(full_plot, filename = "images/inter_mech.eps",
#        device = cairo_ps,
#        width = 15, height = 5)
```

ONLINE APPENDIX

Table B1

```
##############################################################################
#
# ONLINE APPENDIX
#
##############################################################################

#-----------------------------------------------------------------------
# APPENDIX B: Further Details on the Dataset
#-----------------------------------------------------------------------

########################
# TABLE B1: Missingness Does Not Correlate with Observables

# read in data with missings
```

```
econ_dat <- readRDS("full_data.rds")

econ_dat$specific <- econ_dat$fixed_assets / econ_dat$total_assets

econ_dat$miss_spec <- ifelse(is.na(econ_dat$specific)==T, 1, 0)
econ_dat$miss_taxation <- ifelse(is.na(econ_dat$taxation)==T, 1, 0)
econ_dat$miss_revenue <- ifelse(is.na(econ_dat$revenue)==T, 1, 0)
econ_dat$miss_ass <- ifelse(is.na(econ_dat$total_assets)==T, 1, 0)



miss_mod <- lm(miss_spec ~  revenue + total_assets + taxation,
               data=econ_dat
)


miss_spec <- lm(miss_taxation ~  revenue + total_assets + specific,
                data=econ_dat
)

miss_rev <- lm(miss_revenue ~  taxation + total_assets + specific,
               data=econ_dat
)

miss_ass <- lm(miss_total_assets ~   taxation + revenue ,
               data=econ_dat
)

stargazer(miss_mod, miss_spec, miss_rev, miss_ass,
          covariate.labels = c("Revenue", "Total Assets",
                               "Taxation", "Asset Specificity"),
          omit.stat = c("f", "adj.rsq"),
          dep.var.labels = c("Missing Specificity",
                             "Missing Taxes",
                             "Missing Revenue",
                             "Missing Assets"))
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:26:19

Table B3

```
######################
# TABLE B3: Descriptive Statistics

desc_df <- dplyr::select(firm_data, firm_id, decision, wto_final, mobility, total_assets,
                         revenue, taxation, capital, SLX, SLX2, SLX3, SLX4, SLX5)

desc_df <- as.data.frame(desc_df[ , -c(1)])

stargazer(desc_df, summary = T,
          covariate.labels = c("Dumping Decision", "Duty Size", "Asset Specificity",
                               "Total Assets", "Revenue", "Taxation", "Capital",
```

Table 1:

	Dependent variable:			
	Missing Specificity	Missing Taxes	Missing Revenue	Missing Assets
	(1)	(2)	(3)	(4)
Revenue	0.000	0.000		−0.000
	(0.000)	(0.000)		(0.000)
Total Assets	−0.000	−0.000	−0.000	
	(0.000)	(0.000)	(0.000)	
Taxation	0.000		0.000	−0.000
	(0.000)		(0.000)	(0.000)
Asset Specificity		0.020	0.007	
		(0.025)	(0.009)	
Constant	0.001	0.045***	0.003	0.008***
	(0.001)	(0.014)	(0.005)	(0.002)
Observations	2,229	2,352	2,242	2,246
R^2	0.0001	0.003	0.001	0.0003
Residual Std. Error	0.030 (df = 2225)	0.224 (df = 2348)	0.082 (df = 2238)	0.087 (df = 2243)
Note:				*p<0.1; **p<0.05; ***p<0.01

```
                          "SL Specificity", "SL Revenue", "SL Total Assets",
                          "SL Tax", "SL Capital"),
          title = "Descriptive Statistics")
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:26:19

Table 2: Descriptive Statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	M
Dumping Decision	1,030	0.839	0.368	0	1	1	1
Duty Size	1,030	43.860	67.459	0	10.1	45.2	38
Asset Specificity	1,030	0.561	0.187	0.001	0.458	0.693	0.9
Total Assets	1,030	3,154,105.000	10,749,869.000	1.320	78,599.880	784,971.800	91,389,(
Revenue	1,030	2,159,927.000	7,225,859.000	0.900	75,597.420	769,345.900	46,991,(
Taxation	1,030	40,358.080	163,505.300	−119,067.300	77.510	17,858.000	1,245,8
Capital	1,030	253,557.100	876,432.200	0.000	4,599.150	28,031.030	5,931,7
SL Specificity	1,030	10.344	12.558	0	0	17.9	3
SL Revenue	1,030	53,145,261.000	155,355,969.000	0	0	14,431,371.0	582,5(
SL Total Assets	1,030	66,112,739.000	189,296,679.000	0	0	14,568,003.0	704,2(
SL Tax	1,030	1,052,244.000	3,087,621.000	−5,970	0	303,881.9	11,59
SL Capital	1,030	1,331,586.000	3,821,088.000	0	0	503,999.2	25,88

Table B4

```
######################
# TABLE B4: Correlations among covariates

cor_df <- dplyr::select(firm_data, firm_id, mobility, log_rev, log_assets, log_tax, log_cap,
                        SLX, SLX2, SLX3, SLX4, SLX5)

cor_mat <- cor(cor_df[, -c(1)])
cor_mat[upper.tri(cor_mat)] <- NA

stargazer(cor_mat,
          title = "Correlations among covariates",
          covariate.labels = c( " ", "Asset Specificity",
                                "Revenue", "Total Assets", "Taxation", "Capital",
                                "SL Specificity", "SL Revenue", "SL Assets", "SL Tax",
                                "SL Capital")
)
```

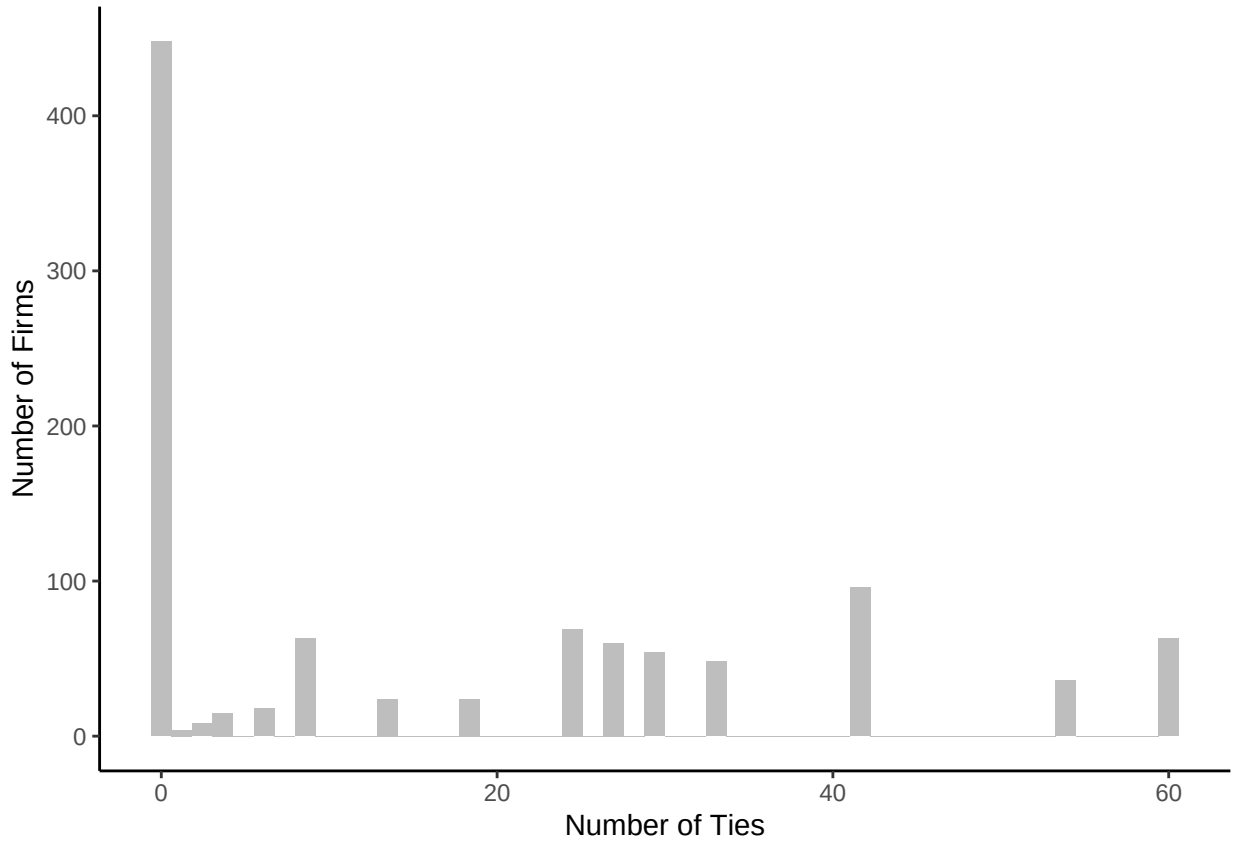
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:26:19

Table 3: Correlations among covariates

	Asset Specificity	Revenue	Total Assets	Taxation	Capital	SL Specificity	SL Revenue	SL
mobility	1							
log_rev	0.341	1						
log_assets	0.423	0.974	1					
log_tax	0.071	0.209	0.223	1				
log_cap	0.312	0.678	0.718	0.083	1			
SLX	0.243	0.126	0.112	0.080	-0.024	1		
SLX2	0.070	0.042	-0.001	-0.008	-0.044	0.620	1	
SLX3	0.080	0.058	0.018	-0.005	-0.025	0.618	0.998	
SLX4	0.073	0.025	-0.019	-0.018	-0.059	0.629	0.996	0
SLX5	0.156	0.200	0.204	0.067	0.135	0.364	0.628	0

Figure C1

```
#-------------------------------------------------------------
# APPENDIX C: The Process of Tie Formation and Spatial Autocorrelation
#-------------------------------------------------------------

######################
# FIGURE C.1: The Distribution of Same-Good Producers Seeking Protection.

p <- ggplot(firm_data, aes(x = count_ties)) +
  geom_histogram(fill = "grey", bins = 50) +
  theme_classic() +
  labs(x = "Number of Ties", y = "Number of Firms")

p
```

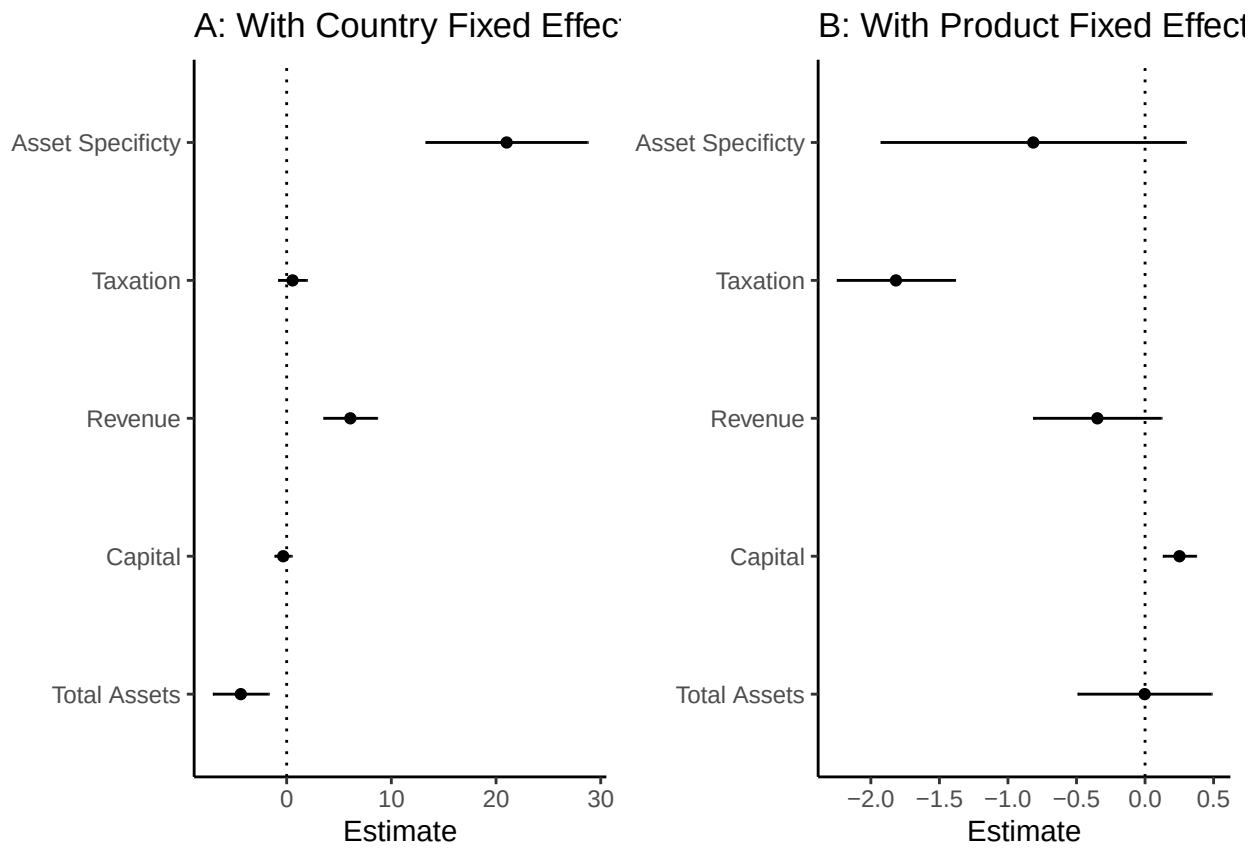



```
# ggsave(p, filename = "images/DistTies.eps", device = cairo_ps,
#        width = 7, height = 5)
```

Figure C2

```
####################
# FIGURE C.2: The Correlates of Seeking Protection Simultaneously (A).

tie_mod <- lm(count_ties ~ mobility + log_rev +
                log_assets + log_tax + log_cap + AD_CTY_NAME,
              data = firm_data)

tidy_tie <- tidy(tie_mod)

p1 <- ggplot(tidy_tie[2:6,],
       aes(x = estimate, y = term)) +
  geom_point() +
  geom_errorbarh(aes(xmin = estimate - 1.96*std.error,
                     xmax = estimate + 1.96*std.error),
                 height = 0) +
  theme_classic() +
  geom_vline(xintercept = 0, lty = 3) +
  scale_y_discrete(labels = c("Total Assets", "Capital",
                              "Revenue", "Taxation",
                              "Asset Specificty")) +
  labs(x = "Estimate", y = NULL,
```

```
       title = "A: With Country Fixed Effects")



tie_mod2 <- lm(count_ties ~ mobility + log_rev +
                log_assets + log_tax + log_cap + PRODUCT,
              data = firm_data)

tidy_tie2 <- tidy(tie_mod2)

p2 <- ggplot(tidy_tie2[2:6,],
             aes(x = estimate, y = term)) +
  geom_point() +
  geom_errorbarh(aes(xmin = estimate - 1.96*std.error,
                     xmax = estimate + 1.96*std.error),
                 height = 0) +
  theme_classic() +
  geom_vline(xintercept = 0, lty = 3) +
  scale_y_discrete(labels = c("Total Assets", "Capital",
                              "Revenue", "Taxation",
                              "Asset Specificty")) +
  labs(x = "Estimate", y = NULL,
       title = "B: With Product Fixed Effects")


p3 <- plot_grid(p1,p2)

p3
```

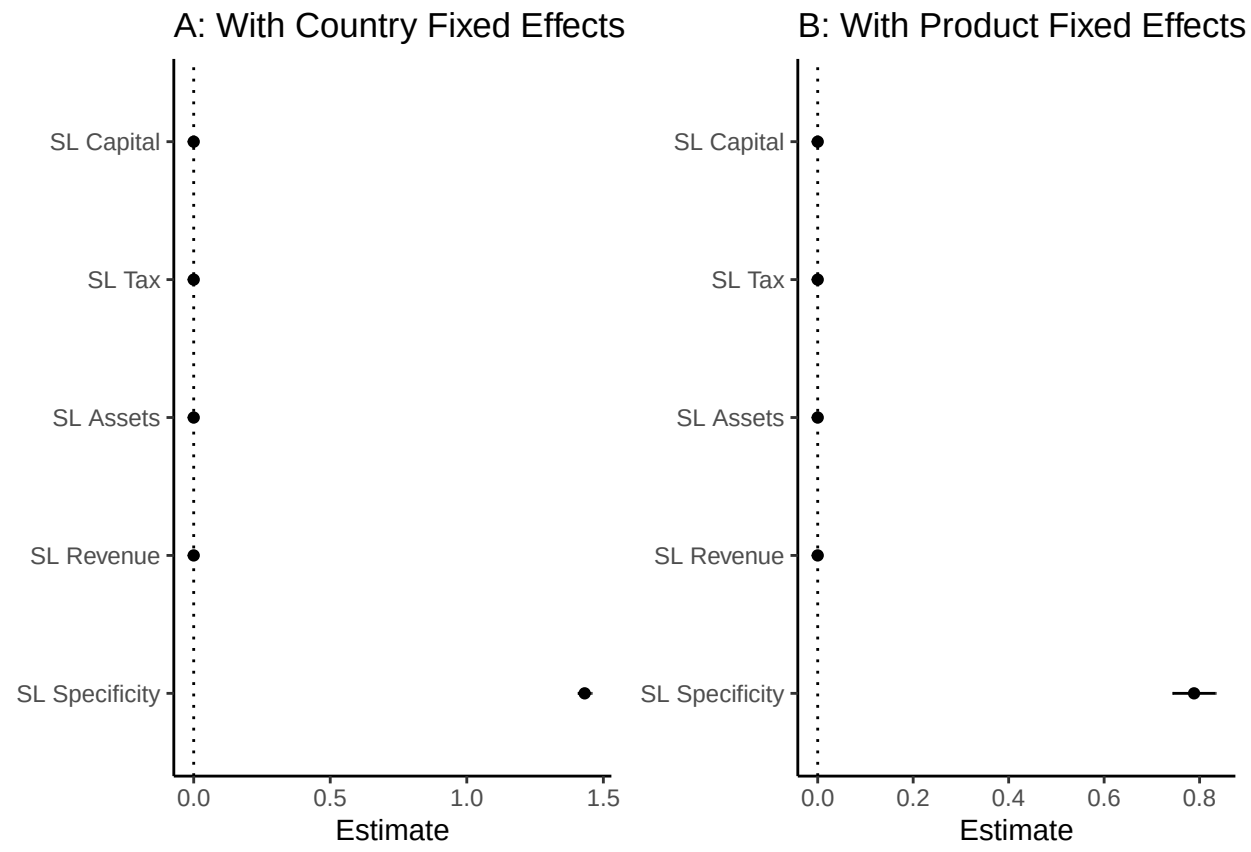



```
# ggsave(p3, filename = "images/CorTies.eps", device = cairo_ps,
#        width = 9, height = 7.5)
```

Figure C3

```
####################
# FIGURE C.3: The Correlates of Seeking Protection Simultaneously (B).

tie_mod3 <- lm(count_ties ~ SLX + SLX2 + SLX3 + SLX4 + SLX5 +
                 AD_CTY_NAME,
               data = firm_data)

tidy_tie3 <- tidy(tie_mod3)

p4<- ggplot(tidy_tie3[2:6,],
            aes(x = estimate, y = term)) +
  geom_point() +
  geom_errorbarh(aes(xmin = estimate - 1.96*std.error,
                     xmax = estimate + 1.96*std.error),
                 height = 0) +
  theme_classic() +
  geom_vline(xintercept = 0, lty = 3) +
  scale_y_discrete(labels = c("SL Specificity", "SL Revenue",
                              "SL Assets", "SL Tax", "SL Capital")) +
  labs(x = "Estimate", y = NULL,
       title = "A: With Country Fixed Effects")
```

```
tie_mod4 <- lm(count_ties ~ SLX + SLX2 + SLX3 + SLX4 + SLX5 +
                 PRODUCT,
               data = firm_data)

tidy_tie4 <- tidy(tie_mod4)

p5<- ggplot(tidy_tie4[2:6,],
       aes(x = estimate, y = term)) +
  geom_point() +
  geom_errorbarh(aes(xmin = estimate - 1.96*std.error,
                     xmax = estimate + 1.96*std.error),
                 height = 0) +
  theme_classic() +
  geom_vline(xintercept = 0, lty = 3) +
  scale_y_discrete(labels = c("SL Specificity", "SL Revenue",
                              "SL Assets", "SL Tax", "SL Capital")) +
  labs(x = "Estimate", y = NULL,
       title = "B: With Product Fixed Effects")


p6 <- plot_grid(p4,p5)

p6
```



```
# ggsave(p6, filename = "images/CorTies_slx.eps", device = cairo_ps,
#        width = 9, height = 7.5)
```

##Figure C4

```
####################
# FIGURE C.4: Diagnosing Spillover of Antidumping Duties.

I1 <- lm.morantest(lm(decision ~ mobility, data = firm_data),
            panel.weight, zero.policy = T)
I1
```

```
Global Moran I for regression residuals
```

data:
model: lm(formula = decision ~ mobility, data = firm_data) weights: panel.weight

Moran I statistic standard deviate = 16.793, p-value < 2.2e-16 alternative hypothesis: greater sample estimates: Observed Moran I Expectation Variance 0.1687635569 -0.0012779080 0.0001025271

```
I2 <- lm.morantest(lm(log(wto_final+.5) ~ mobility, data = firm_data),
                   panel.weight, zero.policy = T)

I2
```

```
Global Moran I for regression residuals
```

data:
model: lm(formula = log(wto_final + 0.5) ~ mobility, data = firm_data) weights: panel.weight

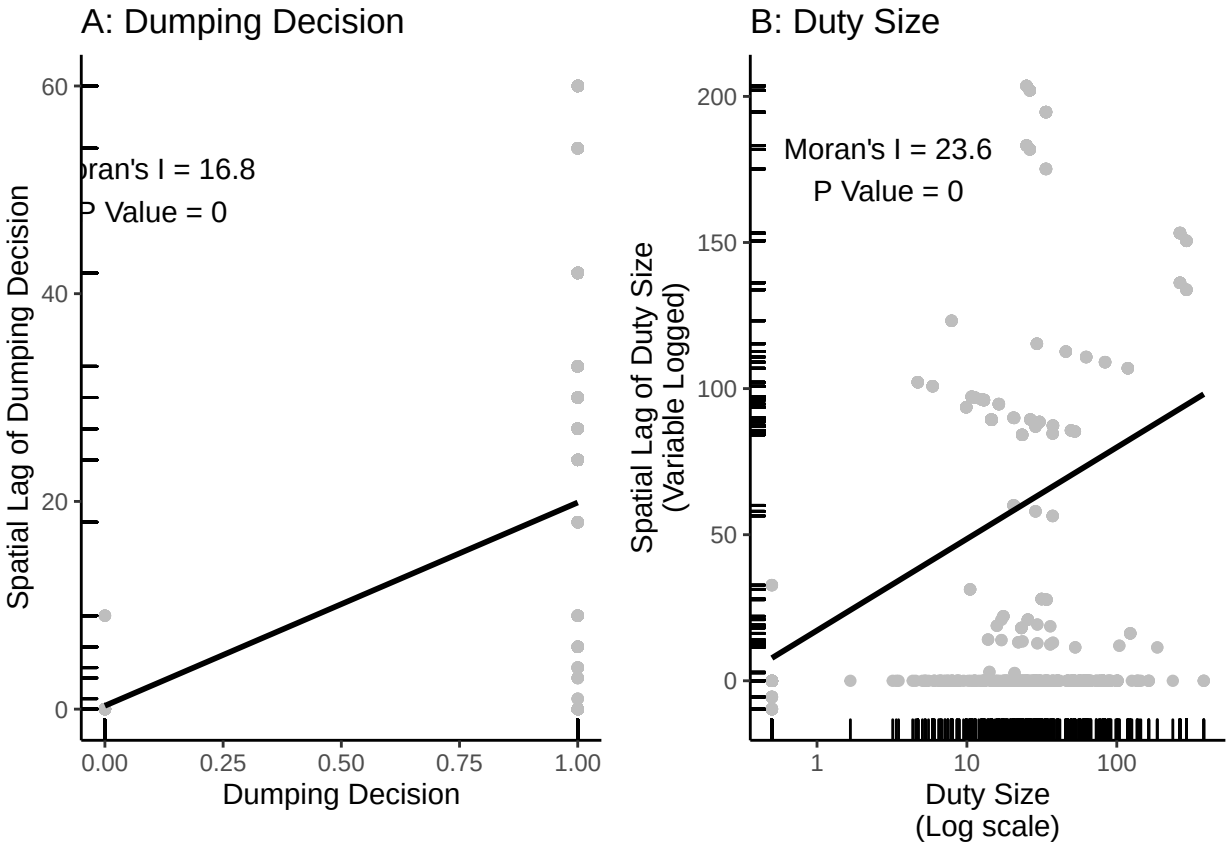
Moran I statistic standard deviate = 23.588, p-value < 2.2e-16 alternative hypothesis: greater sample estimates: Observed Moran I Expectation Variance 0.2375599528 -0.0012779080 0.0001025271

```
p7<-ggplot(firm_data, aes(x = decision, y = spat_dec)) +
  geom_point(colour = "grey") +
  geom_smooth(method = "lm", colour = "black", se = F) +
  theme_classic() +
  geom_rug() +
  labs(x = "Dumping Decision\n",
       y = "Spatial Lag of Dumping Decision",
       title = "A: Dumping Decision") +
  annotate(geom = "text", x = 0.1, y = 50,
           label = paste(paste("Moran's I = ",
                               round(I1$statistic, digits = 1), sep = ""),
                               paste("P Value = ",
                               round(I1$p.value, digits = 1), sep = ""),
                               sep ="\n"))

p8<- ggplot(firm_data,
       aes(x = wto_final +.5, y = spat_duty)) +
  geom_point(colour = "grey") +
  geom_smooth(method = "lm", colour = "black", se = F) +
  theme_classic() +
  geom_rug() +
  labs(x = "Duty Size\n(Log scale)",
       y = "Spatial Lag of Duty Size\n(Variable Logged)",
       title = "B: Duty Size") +
  annotate(geom = "text", x = 3, y = 175,
```

```
          label = paste(paste("Moran's I = ",
                              round(I2$statistic, digits = 1), sep = ""),
                        paste("P Value = ",
                              round(I2$p.value, digits = 1), sep = ""),
                        sep ="\n")) +
  scale_x_log10()

p9<-plot_grid(p7,p8)
```

```
## `geom_smooth()` using formula 'y ~ x'
## `geom_smooth()` using formula 'y ~ x'
```

```
p9
```




```
# ggsave(p9, filename = "images/MoranPlot.eps", device = cairo_ps,
#        width = 12, height = 6.5)
```

##Table D1

```
#-------------------------------------------------------------
# APPENDIX D: Details of the SAR Model Specification
#-------------------------------------------------------------

##########
# TABLE D1: SAR Coefficients

dec_rho <- c(round(dec.biv$rho, digits = 3),
```

```
            round(dec.mod$rho, digits = 3),
            round(dec.prod$rho, digits = 3))

dec_rho_se <- c(round(dec.biv$rho.se, digits = 4),
                round(dec.mod$rho.se, digits = 4),
                round(dec.prod$rho.se, digits = 4))
dec_rho/dec_rho_se
```

```
 rho      rho      rho
```

32.00000 12.50000 -8.26087

```
duty_rho <- c(round(slx.biv$rho, digits = 3),
              round(slx.mod$rho, digits = 3),
              round(prod2$rho, digits = 3))

duty_rho_se <- c(round(slx.biv$rho.se, digits = 4),
                 round(slx.mod$rho.se, digits = 4),
                 round(prod2$rho.se, digits = 4))

duty_rho/duty_rho_se
```

```
  rho       rho       rho
```

170.00000 17.77778 -57.50000

```
stargazer(dec.biv, dec.mod, dec.prod,
          slx.biv, slx.mod, prod2,
          omit = c("year", "AD", "prod", "slx", "SLX"),
          covariate.labels = c("Asset Specificity",
                               "Revenue (log)",
                               "Total Assets (log)",
                               "Taxes (log)",
                               "Capital (log)"),
          add.lines = list(c("Rho", c(dec_rho, duty_rho)),
                           c(" ", c(dec_rho_se, duty_rho_se)),
                           c("Country FE?", "Yes", "Yes", "Yes","Yes", "Yes", "Yes"),
                           c("Year FE?", "No", "Yes", "Yes", "No", "Yes", "Yes"),
                           c("Product FE?", "No", "No", "Yes", "No", "No", "Yes")
                           ),
          dep.var.labels = c("Dumping Decision", "ln Duty Size"),
          title = "SAR Coefficients",
          label = "tab:coef", no.space = T)
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:26:21

Table D2

```
###########
# TABLE D2: Results Without Spatial Lags


lpm1 <- lm(decision ~ I(fixed_assets/total_assets) + AD_CTY_NAME + factor(year),
           data = firm_data)
summary(lpm1)
```

Table 4: SAR Coefficients

	Dependent variable:					
	Dumping Decision			ln Duty Size		
	(1)	(2)	(3)	(4)	(5)	(6)
Asset Specificity	0.139**	0.285***	0.119***	−0.188	0.922***	0.400*
	(0.059)	(0.065)	(0.045)	(0.269)	(0.294)	(0.220)
Revenue (log)		0.108***	0.003		0.573***	−0.009
		(0.022)	(0.018)		(0.097)	(0.093)
Total Assets (log)		−0.094***	−0.014		−0.526***	−0.045
		(0.023)	(0.019)		(0.102)	(0.099)
Taxes (log)		−0.034***	0.091*		−0.078	0.322
		(0.011)	(0.052)		(0.050)	(0.267)
Capital (log)		−0.024***	0.002		−0.076**	0.013
		(0.007)	(0.004)		(0.031)	(0.023)
Constant	0.937***	1.299***	0.302	4.324***	5.549***	0.378
	(0.151)	(0.201)	(0.583)	(0.691)	(0.876)	(3.044)
Rho	0.016	0.015	-0.019	0.017	0.016	-0.023
	5e-04	0.0012	0.0023	1e-04	9e-04	4e-04
Country FE?	Yes	Yes	Yes	Yes	Yes	Yes
Year FE?	No	Yes	Yes	No	Yes	Yes
Product FE?	No	No	Yes	No	No	Yes
Observations	1,030	1,030	1,030	1,030	1,030	1,030
Log Likelihood	−216.706	−122.825	952.469	−1,784.534	−1,634.738	−759.659
σ^2	0.089	0.074	0.009	1.853	1.390	0.253
Akaike Inf. Crit.	479.413	317.651	−1,604.937	3,615.069	3,349.475	1,819.317
Wald Test (df = 1)	1,108.666***	143.957***	70.360***	13,096.630***	272.871***	3,892.558***
LR Test (df = 1)	80.996***	59.221***	28.983***	212.730***	98.420***	108.076***
Note:						*p<0.1; **p<0.05; ***p<0.01

Call: lm(formula = decision ~ I(fixed_assets/total_assets) + AD_CTY_NAME + factor(year), data = firm_data)

Residuals: Min 1Q Median 3Q Max -1.03461 -0.01128 0.02383 0.15446 0.88257

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.838001 0.168458 4.975 7.69e-07 ***I(fixed_assets/total_assets) 0.161544 0.059851 2.699 0.007070*** *AD_CTY_NAMEAustralia 0.044253 0.169860 0.261 0.794510*
AD_CTY_NAMEBrazil -0.407684 0.172086 -2.369 0.018022
AD_CTY_NAMECanada 0.205128 0.225302 0.910 0.362799
AD_CTY_NAMEColombia -0.367643 0.174999 -2.101 0.035905 *
AD_CTY_NAMEEuropean Union -0.777023 0.205209 -3.786 0.000162 ***AD_CTY_NAMEIndia 0.041169 0.164143 0.251 0.802011***
AD_CTY_NAMEIsrael -0.754438 0.212369 -3.552 0.000399 AD_CTY_NAMEJapan -0.539309 0.215497 -2.503 0.012486 *
AD_CTY_NAMEMalaysia 0.387149 0.190659 2.031 0.042562 *
AD_CTY_NAMEMexico -0.113719 0.213708 -0.532 0.594759
AD_CTY_NAMEPhilippines -0.699701 0.353986 -1.977 0.048357 *
AD_CTY_NAMERussia -0.310897 0.163421 -1.902 0.057402 .
AD_CTY_NAMESouth Africa -0.001505 0.184093 -0.008 0.993478
AD_CTY_NAMESouth Korea 0.040757 0.177403 0.230 0.818337
AD_CTY_NAMETaiwan 0.325328 0.353890 0.919 0.358165
AD_CTY_NAMETurkey -0.021415 0.167194 -0.128 0.898105
AD_CTY_NAMEUkraine 0.182416 0.183809 0.992 0.321233
AD_CTY_NAMEUSA -0.043077 0.186864 -0.231 0.817730
factor(year)2007 -0.001333 0.034067 -0.039 0.968802
factor(year)2008 0.043036 0.037853 1.137 0.255839
factor(year)2009 -0.146799 0.032961 -4.454 9.39e-06 ***factor(year)2010 -0.249407 0.096592 -2.582 0.009962*** *factor(year)2011 -0.159742 0.069402 -2.302 0.021557*
factor(year)2012 0.088474 0.069086 1.281 0.200616
factor(year)2013 -0.402596 0.051906 -7.756 2.15e-14 *** factor(year)2014 0.014072 0.056626 0.249 0.803798
factor(year)2015 -0.093314 0.062086 -1.503 0.133162
— Signif. codes: 0 ‘’ ***0.001*** ’’ *0.01* ’’ 0.05 ‘.’ 0.1 ’ ’ 1

Residual standard error: 0.3015 on 1001 degrees of freedom Multiple R-squared: 0.3463, Adjusted R-squared: 0.3281 F-statistic: 18.94 on 28 and 1001 DF, p-value: < 2.2e-16

```
c.lpm1 <- coef(lpm1)
lpm1.ci <- sqrt(diag(vcovHC(lpm1, type = "HC1")))

lpm2 <- lm(decision ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) +
             AD_CTY_NAME + factor(year),
           data = firm_data)
summary(lpm2)
```

Call: lm(formula = decision ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + AD_CTY_NAME + factor(year), data = firm_data)

Residuals: Min 1Q Median 3Q Max -1.19901 -0.02697 0.02591 0.11903 0.76711

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 0.7532306 0.1754033 4.294 1.92e-05 ***I(fixed_assets/total_assets) 0.4250889 0.0681181 6.240 6.44e-10*** log(revenue) 0.1772389 0.0222889 7.952 4.95e-15 ***log(total_assets) -0.1829817 0.0224431 -8.153 1.06e-15*** AD_CTY_NAMEAustralia 0.0440192 0.1647913 0.267 0.789431
AD_CTY_NAMEBrazil -0.3059016 0.1677819 -1.823 0.068570 .
AD_CTY_NAMECanada 0.1651536 0.2184441 0.756 0.449800
AD_CTY_NAMEColombia -0.3356412 0.1706425 -1.967 0.049468 *

AD_CTY_NAMEEuropean Union -0.6036547 0.2001017 -3.017 0.002620 ** AD_CTY_NAMEIndia 0.0467783 0.1591632 0.294 0.768894
AD_CTY_NAMEIsrael -0.7702363 0.2058750 -3.741 0.000194 ***AD_CTY_NAMEJapan -0.4772441 0.2093021 -2.280 0.022808***
AD_CTY_NAMEMalaysia 0.6337069 0.1879583 3.372 0.000776 *AD_CTY_NAMEMexico -0.1259169 0.2086699 -0.603 0.546362*
AD_CTY_NAMEPhilippines -0.6480211 0.3446847 -1.880 0.060393 .
AD_CTY_NAMERussia -0.2560780 0.1586900 -1.614 0.106908
AD_CTY_NAMESouth Africa -0.0002304 0.1784302 -0.001 0.998970
AD_CTY_NAMESouth Korea 0.0451047 0.1719565 0.262 0.793142
AD_CTY_NAMETaiwan 0.5610316 0.3446964 1.628 0.103923
AD_CTY_NAMETurkey 0.0178478 0.1624286 0.110 0.912526
AD_CTY_NAMEUkraine 0.2306641 0.1809843 1.274 0.202783
AD_CTY_NAMEUSA 0.0056140 0.1813089 0.031 0.975305
factor(year)2007 0.0165792 0.0336689 0.492 0.622531
factor(year)2008 0.0406295 0.0367786 1.105 0.269553
factor(year)2009 -0.1303570 0.0323719 -4.027 6.08e-05 **factor(year)2010 -0.2258002 0.0937848 -2.408 0.016236 ***
factor(year)2011 -0.1577340 0.0672846 -2.344 0.019259 *
factor(year)2012 0.1036327 0.0674500 1.536 0.124748
factor(year)2013 -0.3968898 0.0505081 -7.858 1.01e-14 * factor(year)2014 0.0600198 0.0552855 1.086 0.277903
factor(year)2015 -0.1098774 0.0603548 -1.821 0.068978 .
— Signif. codes: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.2923 on 999 degrees of freedom Multiple R-squared: 0.3872, Adjusted R-squared: 0.3688 F-statistic: 21.04 on 30 and 999 DF, p-value: < 2.2e-16

```
c.lpm2 <- coef(lpm2)[2]
lpm2.ci <- sqrt(diag(vcovHC(lpm2, type = "HC1")))

lpm3 <- lm(decision ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets)+
             log(taxation+ 119067.3) + log(capital+.5) +
             AD_CTY_NAME+ factor(year),
           data = firm_data)
summary(lpm3)
```

Call: lm(formula = decision ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + AD_CTY_NAME + factor(year), data = firm_data)

Residuals: Min 1Q Median 3Q Max -1.17820 -0.02467 0.03405 0.12015 0.78775

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 1.113831 0.214517 5.192 2.52e-07 ***I(fixed_assets/total_assets) 0.432055 0.068532 6.304 4.34e-10*** log(revenue) 0.168197 0.022279 7.550 9.83e-14 ***log(total_assets) -0.155680 0.023457 -6.637 5.26e-11*** log(taxation + 119067.3) -0.028394 0.012113 -2.344 0.01926 *
log(capital + 0.5) -0.022039 0.007473 -2.949 0.00326 ** AD_CTY_NAMEAustralia 0.045174 0.163948 0.276 0.78296
AD_CTY_NAMEBrazil -0.350120 0.167836 -2.086 0.03722 *
AD_CTY_NAMECanada 0.169796 0.217219 0.782 0.43459
AD_CTY_NAMEColombia -0.394654 0.171219 -2.305 0.02137 *
AD_CTY_NAMEEuropean Union -0.629019 0.198984 -3.161 0.00162 ** AD_CTY_NAMEIndia -0.007767 0.159722 -0.049 0.96123
AD_CTY_NAMEIsrael -0.827919 0.205575 -4.027 6.07e-05 ***AD_CTY_NAMEJapan -0.495596 0.208049 -2.382 0.01740***
AD_CTY_NAMEMalaysia 0.602670 0.186990 3.223 0.00131 AD_CTY_NAMEMexico -0.140238

0.207606 -0.676 0.49951
AD_CTY_NAMEPhilippines -0.745625 0.344293 -2.166 0.03057 *
AD_CTY_NAMERussia -0.298590 0.158379 -1.885 0.05968 .
AD_CTY_NAMESouth Africa -0.148120 0.184216 -0.804 0.42155
AD_CTY_NAMESouth Korea -0.011728 0.172691 -0.068 0.94587
AD_CTY_NAMETaiwan 0.538132 0.342578 1.571 0.11654
AD_CTY_NAMETurkey -0.011588 0.161680 -0.072 0.94288
AD_CTY_NAMEUkraine 0.151273 0.182817 0.827 0.40818
AD_CTY_NAMEUSA -0.061527 0.182199 -0.338 0.73567
factor(year)2007 0.002491 0.033742 0.074 0.94117
factor(year)2008 0.053144 0.037134 1.431 0.15270
factor(year)2009 -0.127822 0.032231 -3.966 7.84e-05 ***factor(year)2010 -0.215343 0.093399 -2.306 0.02134***
factor(year)2011 -0.135456 0.067560 -2.005 0.04524 *
factor(year)2012 0.103214 0.067177 1.536 0.12475
factor(year)2013 -0.402325 0.050479 -7.970 4.32e-15 * factor(year)2014 0.066209 0.055171 1.200 0.23040
factor(year)2015 -0.120201 0.061290 -1.961 0.05014 .
— Signif. codes: 0 ‘’ ***0.001*** ’’ *0.01* ’’ 0.05 ‘.’ 0.1 ’ ’ 1

Residual standard error: 0.2904 on 997 degrees of freedom Multiple R-squared: 0.3961, Adjusted R-squared: 0.3767 F-statistic: 20.43 on 32 and 997 DF, p-value: < 2.2e-16

```
c.lpm3 <- coef(lpm3)
lpm3.ci <- sqrt(diag(vcovHC(lpm3, type = "HC1")))

###
# Size of AD duty as DV (OLS MODELS)

ols1 <- lm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + AD_CTY_NAME, data = firm_data)
summary(ols1)
```

Call: lm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + AD_CTY_NAME, data = firm_data)

Residuals: Min 1Q Median 3Q Max -4.6062 -0.5706 0.1684 0.9326 4.6013

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 4.5827 0.7779 5.891 5.22e-09 ***I(fixed_assets/total_assets) -0.7553 0.2966 -2.546 0.011029***
AD_CTY_NAMEAustralia -2.1591 0.8136 -2.654 0.008081 AD_CTY_NAMEBrazil -3.4105 0.8143 -4.188 3.06e-05 ***AD_CTY_NAMECanada -0.5790 1.0838 -0.534 0.593268***
AD_CTY_NAMEColombia -3.2771 0.8287 -3.954 8.21e-05 AD_CTY_NAMEEuropean Union -4.8746 0.9893 -4.927 9.73e-07 ***AD_CTY_NAMEIndia -0.8692 0.7695 -1.130 0.258912***
AD_CTY_NAMEIsrael -4.9802 1.0280 -4.845 1.47e-06 AD_CTY_NAMEJapan -4.7901 1.0293 -4.654 3.70e-06 ***AD_CTY_NAMEMalaysia -2.1425 0.8949 -2.394 0.016842***
AD_CTY_NAMEMexico -2.1575 1.0306 -2.093 0.036556 *
AD_CTY_NAMEPhilippines -4.7564 1.7144 -2.774 0.005633 AD_CTY_NAMERussia -2.7980 0.7935 -3.526 0.000441 * **AD_CTY_NAMESouth Africa -1.4784 0.8688 -1.702 0.089122 .**
AD_CTY_NAMESouth Korea -1.3769 0.8333 -1.652 0.098762 .
AD_CTY_NAMETaiwan -1.0746 1.7132 -0.627 0.530652
AD_CTY_NAMETurkey -2.2659 0.7825 -2.896 0.003866 AD_CTY_NAMEUkraine -0.6690 0.8766 -0.763 0.445510
AD_CTY_NAMEUSA -1.5796 0.8875 -1.780 0.075404 .
— Signif. codes: 0 ‘’ ***0.001*** ’’ *0.01* ’’ 0.05 ‘.’ 0.1 ’ ’ 1

Residual standard error: 1.532 on 1010 degrees of freedom Multiple R-squared: 0.2533, Adjusted R-squared:

0.2393 F-statistic: 18.04 on 19 and 1010 DF, p-value: < 2.2e-16

```
c.ols1 <- coef(ols1)
ols.ci1 <- sqrt(diag(vcovHC(ols1, type = "HC1")))

ols2 <- lm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + AD_CT
           data = firm_data)
summary(ols2)
```

Call: lm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + AD_CTY_NAME, data = firm_data)

Residuals: Min 1Q Median 3Q Max -4.8036 -0.4365 0.0471 0.9188 4.4127

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 4.2226 0.8173 5.166 2.88e-07 ***I(fixed_assets/total_assets) 0.8782 0.3320 2.645 0.008294*** *log(revenue) 1.0807 0.1106 9.775 < 2e-16* **log(total_assets) -1.1214 0.1108 -10.123 < 2e-16** *AD_CTY_NAMEAustralia -2.1675 0.7761 -2.793 0.005324* ***AD_CTY_NAMEBrazil -2.8466 0.7792 -3.653 0.000272*** AD_CTY_NAMECanada -0.9578 1.0343 -0.926 0.354614
AD_CTY_NAMEColombia -3.0968 0.7971 -3.885 0.000109 ***AD_CTY_NAMEEuropean Union -3.8030 0.9494 -4.006 6.64e-05*** AD_CTY_NAMEIndia -0.8758 0.7353 -1.191 0.233901
AD_CTY_NAMEIsrael -5.0751 0.9809 -5.174 2.77e-07 ***AD_CTY_NAMEJapan -4.4614 0.9828 -4.539 6.32e-06*** AD_CTY_NAMEMalaysia -0.7098 0.8710 -0.815 0.415343
AD_CTY_NAMEMexico -2.2545 0.9922 -2.272 0.023285 *
AD_CTY_NAMEPhilippines -4.4235 1.6443 -2.690 0.007259 ** AD_CTY_NAMERussia -2.5048 0.7576 -3.306 0.000979 ***AD_CTY_NAMESouth Africa -1.6431 0.8290 -1.982 0.047752***
AD_CTY_NAMESouth Korea -1.4662 0.7967 -1.840 0.065995 .
AD_CTY_NAMETaiwan 0.3999 1.6439 0.243 0.807837
AD_CTY_NAMETurkey -1.9465 0.7501 -2.595 0.009599 AD_CTY_NAMEUkraine -0.3895 0.8528 -0.457 0.647936
AD_CTY_NAMEUSA -1.2223 0.8472 -1.443 0.149382
— Signif. codes: 0 '*** ***0.001*** '** *0.01* '* 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.461 on 1008 degrees of freedom Multiple R-squared: 0.3223, Adjusted R-squared: 0.3081 F-statistic: 22.82 on 21 and 1008 DF, p-value: < 2.2e-16

```
c.ols2<- coef(ols2)
ols.ci2 <- sqrt(diag(vcovHC(ols2, type = "HC1")))


ols3 <- lm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + log(ta
             AD_CTY_NAME,
           data = firm_data)
summary(ols3)
```

Call: lm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + AD_CTY_NAME, data = firm_data)

Residuals: Min 1Q Median 3Q Max -4.7997 -0.4579 0.0606 0.9389 4.3411

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 5.58756 1.02946 5.428 7.16e-08 ***I(fixed_assets/total_assets) 0.86709 0.33591 2.581 0.009983*** *log(revenue) 1.05210 0.11106 9.474 < 2e-16* **log(total_assets) -1.04916 0.11577 -9.062 < 2e-16** *log(taxation + 119067.3) -0.11524 0.05917 -1.948 0.051741 .*
log(capital + 0.5) -0.04660 0.03536 -1.318 0.187806
AD_CTY_NAMEAustralia -2.18764 0.77528 -2.822 0.004870 ***AD_CTY_NAMEBrazil -2.99248 0.78182 -3.828 0.000137*** AD_CTY_NAMECanada -0.96510 1.03251 -0.935 0.350163
AD_CTY_NAMEColombia -3.21969 0.80364 -4.006 6.62e-05 ***AD_CTY_NAMEEuropean Union -***

3.88757 0.94867 -4.098 4.50e-05 AD_CTY_NAMEIndia -0.99007 0.74029 -1.337 0.181390
AD_CTY_NAMEIsrael -5.19662 0.98313 -5.286 1.53e-07 ***AD_CTY_NAMEJapan -4.51612 0.98153 -4.601 4.74e-06*** AD_CTY_NAMEMalaysia -0.80330 0.87127 -0.922 0.356755
AD_CTY_NAMEMexico -2.28487 0.99234 -2.303 0.021510 *
AD_CTY_NAMEPhilippines -4.59715 1.65039 -2.785 0.005445 ** AD_CTY_NAMERussia -2.59473 0.75968 -3.416 0.000662 ***AD_CTY_NAMESouth Africa -1.96129 0.86561 -2.266 0.023677***
AD_CTY_NAMESouth Korea -1.56544 0.79954 -1.958 0.050515 .
AD_CTY_NAMETaiwan 0.35982 1.64116 0.219 0.826502
AD_CTY_NAMETurkey -2.00149 0.75010 -2.668 0.007746 AD_CTY_NAMEUkraine -0.54020 0.86584 -0.624 0.532836
AD_CTY_NAMEUSA -1.33581 0.85264 -1.567 0.117504
— Signif. codes: 0 ‘’ ***0.001*** ’’ *0.01* ’’ 0.05 ‘.’ 0.1 ’ ’ 1

Residual standard error: 1.459 on 1006 degrees of freedom Multiple R-squared: 0.326, Adjusted R-squared: 0.3105 F-statistic: 21.15 on 23 and 1006 DF, p-value: < 2.2e-16

```
c.ols3 <- coef(ols3)
ols.ci3 <- sqrt(diag(vcovHC(ols3, type = "HC1")))

###
# set up the table of results

stargazer(lpm1, lpm2, lpm3, ols1, ols2, ols3, ci = T,
          se = list(lpm1.ci, lpm2.ci, lpm3.ci, ols.ci1, ols.ci2, ols.ci3),
          covariate.labels = c("Mobility", "Revenue (logged)", "Total Assets (logged)", "Taxation in US
                               "Total Capital in USD"),
          omit = c("AD_CTY_NAME", "factor", "Constant"), df = F, no.space = T,
          omit.stat = c("ser","rsq", "f", "aic"),
          add.lines = list(c("Country FE?", "Yes", "Yes", "Yes", "Yes", "Yes", "Yes"),
                           c("Year FE?", "Yes", "Yes", "Yes", "Yes", "Yes", "Yes")),
          dep.var.labels = c("Dumped or not", "Duty (logged)"),
          title = "Capital Immobility and antidumping protection at the firm-level")
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:26:22

Table E1

```
#-------------------------------------------------------------
# APPENDIX E: Robustness Checks
#-------------------------------------------------------------

#################
# TABLE E1:

mod1 <- lm(scale(mobility) ~ I(lag_prot_dec*100), firm_data)
summary(mod1)
```

Call: lm(formula = scale(mobility) ~ I(lag_prot_dec * 100), data = firm_data)

Residuals: Min 1Q Median 3Q Max -3.1248 -0.5890 0.1709 0.6569 2.3545

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) -0.3177263 0.0552949 -5.746 1.20e-08 ***I(lag_prot_dec* **100) 0.0046234 0.0006714 6.887 9.93e-12** * — Signif. codes: 0 ‘’ ***0.001*** ’’ *0.01* ’’ 0.05 ‘.’ 0.1 ’ ’ 1

Table 5: Capital Immobility and antidumping protection at the firm-level

	Dependent variable:				
	Dumped or not				Duty (logged)
	(1)	(2)	(3)	(4)	(5)
Mobility	0.162**	0.425***	0.432***	−0.755**	0.878**
	(0.020, 0.303)	(0.265, 0.585)	(0.267, 0.597)	(−1.488, −0.023)	(0.109, 1.648)
Revenue (logged)		0.177***	0.168***		1.081***
		(0.120, 0.234)	(0.112, 0.225)		(0.824, 1.338)
Total Assets (logged)		−0.183***	−0.156***		−1.121***
		(−0.242, −0.124)	(−0.214, −0.097)		(−1.380, −0.863)
Taxation in USD			−0.028***		
			(−0.047, −0.010)		
Total Capital in USD			−0.022**		
			(−0.040, −0.004)		
Country FE?	Yes	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes	Yes
Observations	1,030	1,030	1,030	1,030	1,030
Adjusted R^2	0.328	0.369	0.377	0.239	0.308
Note:					*p<0.1;

Residual standard error: 0.9782 on 1028 degrees of freedom Multiple R-squared: 0.0441, Adjusted R-squared: 0.04317 F-statistic: 47.43 on 1 and 1028 DF, p-value: 9.93e-12

```
mod2 <- lm(scale(mobility) ~ I(lag_prot_dec*100) + AD_CTY_NAME + year, firm_data)
summary(mod2)
```

Call: lm(formula = scale(mobility) ~ I(lag_prot_dec * 100) + AD_CTY_NAME + year, data = firm_data)

Residuals: Min 1Q Median 3Q Max -3.1965 -0.4591 0.0516 0.4997 3.0724

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) -5.928e-01 4.677e-01 -1.267 0.205301
I(lag_prot_dec * 100) 3.197e-03 7.065e-04 4.525 6.77e-06 ***AD_CTY_NAMEAustralia 9.540e-01 4.750e-01 2.009 0.044846***
AD_CTY_NAMEBrazil 5.838e-01 4.821e-01 1.211 0.226164
AD_CTY_NAMECanada 6.275e-01 6.309e-01 0.995 0.320165
AD_CTY_NAMEColombia -5.355e-01 4.903e-01 -1.092 0.275088
AD_CTY_NAMEEuropean Union 8.004e-01 5.764e-01 1.389 0.165286
AD_CTY_NAMEIndia 8.552e-01 4.591e-01 1.863 0.062787 .
AD_CTY_NAMEIsrael 5.112e-02 5.967e-01 0.086 0.931741
AD_CTY_NAMEJapan 1.549e+00 6.023e-01 2.571 0.010288 *
AD_CTY_NAMEMalaysia 7.632e-01 5.341e-01 1.429 0.153371
AD_CTY_NAMEMexico 1.852e+00 5.972e-01 3.101 0.001981 AD_CTY_NAMEPhilippines 8.303e-01 9.917e-01 0.837 0.402664
AD_CTY_NAMERussia 1.319e+00 4.572e-01 2.884 0.004012 ** AD_CTY_NAMESouth Africa 5.374e-01 5.155e-01 1.042 0.297511
AD_CTY_NAMESouth Korea 7.952e-01 4.969e-01 1.600 0.109832
AD_CTY_NAMETaiwan -8.016e-05 9.917e-01 0.000 0.999936
AD_CTY_NAMETurkey -4.386e-01 4.683e-01 -0.937 0.349104
AD_CTY_NAMEUkraine -3.211e-01 5.149e-01 -0.624 0.532980
AD_CTY_NAMEUSA 1.623e+00 5.215e-01 3.113 0.001905 ** year2007 -3.412e-01 9.484e-02 -3.598 0.000336

year2008 -5.793e-01 1.045e-01 -5.544 3.78e-08 year2009 -3.648e-01 9.187e-02 -3.971 7.65e-05 ***year2010 4.441e-01 2.726e-01 1.629 0.103595*** ***year2011 -1.151e-01 1.963e-01 -0.586 0.557711*** ***year2012 -2.122e-01 1.934e-01 -1.097 0.273008*** ***year2013 -5.131e-01 1.479e-01 -3.468 0.000546*** year2014 -4.077e-01 1.581e-01 -2.578 0.010074 * year2015 -4.673e-01 1.743e-01 -2.682 0.007443 ** — Signif. codes: 0 ‘***’ ***0.001*** ’** *0.01* ’* 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 0.8448 on 1001 degrees of freedom Multiple R-squared: 0.3057, Adjusted R-squared: 0.2863 F-statistic: 15.74 on 28 and 1001 DF, p-value: < 2.2e-16

```
mod3 <- lagsarlm(decision ~ I(fixed_assets/total_assets) + I(lag_prot_dec*100) + SLX + log(revenue)+
                   log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                   scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + + AD_CTY_NAME +year ,
                 data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-11,
summary(mod3)
```

Call:lagsarlm(formula = decision ~ I(fixed_assets/total_assets) + I(lag_prot_dec * 100) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + +AD_CTY_NAME + year, data = firm_data, listw = panel.weight, method = “eigen”, zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.0712164 -0.0666307 0.0072744 0.1082834 0.8568138

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 1.20405910 0.18244559 6.5996 4.124e-11 I(fixed_assets/total_assets) 0.27536133 0.06116976 4.5016 6.745e-06 I(lag_prot_dec * 100) 0.00247723 0.00021493 11.5256 < 2.2e-16 SLX -0.00510160 0.00316277 -1.6130 0.1067408 log(revenue) 0.07654361 0.02028139 3.7741 0.0001606 log(total_assets) -0.06461237 0.02132160 -3.0304 0.0024425 log(taxation + 119067.3) -0.03660947 0.01038885 -3.5239 0.0004252 log(capital + 0.5) -0.02045336 0.00642017 -3.1858 0.0014436 scale_slx2 1.67094992 0.27250303 6.1319 8.686e-10 scale_slx3 -1.30611965 0.23567671 -5.5420 2.990e-08 scale_slx4 -0.34526368 0.18927469 -1.8241 0.0681308 scale_slx5 -0.08213594 0.02445514 -3.3586 0.0007833 AD_CTY_NAMEAustralia -0.03064749 0.13856756 -0.2212 0.8249572 AD_CTY_NAMEBrazil -0.44439942 0.14220729 -3.1250 0.0017780 AD_CTY_NAMECanada 0.16395483 0.18296984 0.8961 0.3702123 AD_CTY_NAMEColombia -0.50162321 0.14504196 -3.4585 0.0005433 AD_CTY_NAMEEuropean Union -0.72275383 0.16999526 -4.2516 2.122e-05 AD_CTY_NAMEIndia -0.25004688 0.13558100 -1.8443 0.0651450 AD_CTY_NAMEIsrael -0.82846817 0.17476708 -4.7404 2.133e-06 AD_CTY_NAMEJapan -0.56851896 0.17613678 -3.2277 0.0012478 AD_CTY_NAMEMalaysia 0.25710815 0.15878639 1.6192 0.1054026 AD_CTY_NAMEMexico -0.13429452 0.17574598 -0.7641 0.4447839 AD_CTY_NAMEPhilippines -0.85097681 0.29034848 -2.9309 0.0033800 AD_CTY_NAMERussia 0.09540552 0.13589082 0.7021 0.4826325 AD_CTY_NAMESouth Africa -0.15689225 0.15526605 -1.0105 0.3122684 AD_CTY_NAMESouth Korea

-0.10406335 0.14669980 -0.7094 0.4780995 AD_CTY_NAMETaiwan 0.33476433 0.28911694 1.1579 0.2469107 AD_CTY_NAMETurkey -0.19159467 0.13714132 -1.3971 0.1623955 AD_CTY_NAMEUkraine -0.02837728 0.15469661 -0.1834 0.8544541 AD_CTY_NAMEUSA -0.12469141 0.15511929 -0.8038 0.4214882 year2007 -0.01523941 0.03166523 -0.4813 0.6303272 year2008 0.08470397 0.03199298 2.6476 0.0081070 year2009 -0.07193527 0.03177093 -2.2642 0.0235627 year2010 -0.09339658 0.08174012 -1.1426 0.2532031 year2011 -0.01363300 0.05909670 -0.2307 0.8175558 year2012 -0.03196631 0.06099184 -0.5241 0.6002035 year2013 -0.29470126 0.04567972 -6.4515 1.108e-10 year2014 -0.01170982 0.04870429 -0.2404 0.8099994 year2015 -0.20852978 0.05606407 -3.7195 0.0001996

Rho: 0.0068955, LR test value: 7.8883, p-value: 0.0049756 Asymptotic standard error: 0.002117 z-value: 3.2572, p-value: 0.0011252 Wald statistic: 10.609, p-value: 0.0011252

Log likelihood: -11.19835 for lag model ML residual variance (sigma squared): 0.059783, (sigma: 0.24451) Number of observations: 1030 Number of parameters estimated: 41 AIC: 104.4, (AIC for lm: 110.28) LM test for residual autocorrelation test value: 10.817, p-value: 0.0010056

```
  mod4 <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets) +I(lag_prot_dec*100) + SLX + log(r
                   log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                   scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 +  AD_CTY_NAME + year,
                 data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-11, 
summary(mod4)
```

Call:lagsarlm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + I(lag_prot_dec * 100) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME + year, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -4.381254 -0.377787 0.082098 0.513024 4.509571

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 5.0376402 0.8501976 5.9253 3.118e-09 I(fixed_assets/total_assets) 0.6499912 0.2861281 2.2717 0.0231059 I(lag_prot_dec * 100) 0.0083485 0.0010035 8.3190 < 2.2e-16 SLX -0.0829472 0.0064948 -12.7713 < 2.2e-16 log(revenue) 0.5227565 0.0941175 5.5543 2.787e-08 log(total_assets) -0.4781864 0.0988963 -4.8352 1.330e-06 log(taxation + 119067.3) -0.0675970 0.0483444 -1.3982 0.1620411 log(capital + 0.5) -0.0815543 0.0298281 -2.7341 0.0062543 scale_slx2 7.5704366 1.2739842 5.9423 2.810e-09 scale_slx3 -5.0190468 1.0010815 -5.0136 5.341e-07 scale_slx4 -2.3346754 0.8210474 -2.8435 0.0044616 scale_slx5 -0.2920975 0.1083254 -2.6965 0.0070076 AD_CTY_NAMEAustralia -1.4028470 0.6464547 -2.1701 0.0300021 AD_CTY_NAMEBrazil -2.4684857 0.6640084 -3.7176 0.0002012 AD_CTY_NAMECanada 0.2719180 0.8543446 0.3183 0.7502750 AD_CTY_NAMEColombia -2.8922242 0.6772784 -4.2704 1.952e-05 AD_CTY_NAMEEuropean Union -3.6689043 0.7937512 -4.6222 3.796e-06 AD_CTY_NAMEIndia -1.5602421 0.6330947 -2.4645 0.0137217

AD_CTY_NAMEIsrael -4.4312464 0.8160362 -5.4302 5.629e-08 AD_CTY_NAMEJapan -2.8913815 0.8224635 -3.5155 0.0004389 AD_CTY_NAMEMalaysia -0.2057682 0.7412855 -0.2776 0.7813325 AD_CTY_NAMEMexico -1.1172931 0.8206622 -1.3615 0.1733705 AD_CTY_NAMEPhilippines -4.1769692 1.3548956 -3.0829 0.0020501 AD_CTY_NAMERussia -0.5670083 0.6346143 -0.8935 0.3716059 AD_CTY_NAMESouth Africa -1.3955009 0.7249589 -1.9249 0.0542371 AD_CTY_NAMESouth Korea -2.1115220 0.6849507 -3.0827 0.0020511 AD_CTY_NAMETaiwan 0.4578169 1.3493717 0.3393 0.7343976 AD_CTY_NAMETurkey -1.7369960 0.6390700 -2.7180 0.0065677 AD_CTY_NAMEUkraine -0.3959962 0.7222920 -0.5482 0.5835206 AD_CTY_NAMEUSA -1.7124136 0.7233762 -2.3673 0.0179207 year2007 0.1071408 0.1476311 0.7257 0.4680021 year2008 0.0307199 0.1501349 0.2046 0.8378727 year2009 -0.7926156 0.1495365 -5.3005 1.155e-07 year2010 -0.8879050 0.3800932 -2.3360 0.0194902 year2011 -0.6649530 0.2762913 -2.4067 0.0160969 year2012 -0.6583125 0.2851774 -2.3084 0.0209751 year2013 -1.9488723 0.2141786 -9.0993 < 2.2e-16 year2014 -0.9030189 0.2220912 -4.0660 4.783e-05 year2015 -1.7575996 0.2630911 -6.6806 2.380e-11

Rho: 0.015381, LR test value: 97.909, p-value: < 2.22e-16 Asymptotic standard error: 0.0010394 z-value: 14.798, p-value: < 2.22e-16 Wald statistic: 218.97, p-value: < 2.22e-16

Log likelihood: -1601.273 for lag model ML residual variance (sigma squared): 1.3035, (sigma: 1.1417) Number of observations: 1030 Number of parameters estimated: 41 AIC: 3284.5, (AIC for lm: 3380.5) LM test for residual autocorrelation test value: 1.4816, p-value: 0.22352

```
# regression table
stargazer(mod1, mod2, mod3, mod4,
          keep = c("fixed_assets/total_assets",
                   "lag_prot_dec"),
          covariate.labels = c("Asset Specificity",
                               "Previous Level of Protection"),
          dep.var.labels = c("Asset Specificity", "Dumping Decision", "Duty Size"),
          add.lines = list(c("Country FE?", "Yes", "Yes", "Yes", "Yes"),
                           c("Year FE?", "Yes", "Yes", "Yes", "Yes"),
                           c("Firm Covariates?", "No", "No", "Yes", "Yes")),
          title = "Strategic Investment Under Expectation of Protection",
          label = "tab:sel")
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:26:31

Table E2

```
##################
# TABLE E2:


#-------------------------
# regression table with foreign country dummies and foreign firm characterstics

# foreign country FEs
or_dec <- lagsarlm(decision ~ I(fixed_assets/total_assets)  + SLX + log(revenue)+
                     log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                     scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 +
                     AD_CTY_NAME +year + INV_CTY_CODE,
                   data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-11
summary(or_dec)
```

Call:lagsarlm(formula = decision ~ I(fixed_assets/total_assets) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME + year + INV_CTY_CODE, data = firm_data, listw = panel.weight, method = "eigen",

Table 6: Strategic Investment Under Expectation of Protection

	Dependent variable:			
	Asset Specificity		Dumping Decision	Duty Size
	OLS		*spatial autoregressive*	*spatial autoregressi*
	(1)	(2)	(3)	(4)
Asset Specificity			0.275***	0.650**
			(0.061)	(0.286)
Previous Level of Protection	0.005***	0.003***	0.002***	0.008***
	(0.001)	(0.001)	(0.0002)	(0.001)
Country FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes
Firm Covariates?	No	No	Yes	Yes
Observations	1,030	1,030	1,030	1,030
R^2	0.044	0.306		
Adjusted R^2	0.043	0.286		
Log Likelihood			−11.198	−1,601.273
σ^2			0.060	1.303
Akaike Inf. Crit.			104.397	3,284.546
Residual Std. Error	0.978 (df = 1028)	0.845 (df = 1001)		
F Statistic	47.426*** (df = 1; 1028)	15.739*** (df = 28; 1001)		
Wald Test (df = 1)			10.609***	218.974***
LR Test (df = 1)			7.888***	97.909***
Note:				*p<0.1; **p<0.05; ***p<0.0

zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.0459592 -0.0539024 0.0049063 0.0801831 0.8621885

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 1.2404813 0.2004038 6.1899 6.020e-10 I(fixed_assets/total_assets) 0.3028497 0.0571331 5.3008 1.153e-07 SLX -0.0014314 0.0030662 -0.4668 0.6406159 log(revenue) 0.0480866 0.0190066 2.5300 0.0114065 log(total_assets) -0.0480240 0.0199096 -2.4121 0.0158610 log(taxation + 119067.3) -0.0322616 0.0094942 -3.3980 0.0006787 log(capital + 0.5) -0.0117111 0.0058832 -1.9906 0.0465244 scale_slx2 2.0355219 0.2632556 7.7321 1.066e-14 scale_slx3 -1.6876267 0.2277338 -7.4105 1.259e-13 scale_slx4 -0.3457845 0.1736427 -1.9914 0.0464417 scale_slx5 -0.0931882 0.0225300 -4.1362 3.531e-05 AD_CTY_NAMEAustralia 0.0457538 0.1448630 0.3158 0.7521224 AD_CTY_NAMEBrazil -0.4072033 0.1526521 -2.6675 0.0076412 AD_CTY_NAMECanada 0.2970510 0.1811513 1.6398 0.1010478 AD_CTY_NAMEColombia -0.6041239 0.1514892 -3.9879 6.666e-05 AD_CTY_NAMEEuropean Union -0.9215163 0.1707668 -5.3963 6.801e-08 AD_CTY_NAMEIndia -0.2208655 0.1438337 -1.5356 0.1246460 AD_CTY_NAMEIsrael -0.6744652 0.1786681 -3.7750 0.0001600 AD_CTY_NAMEJapan -0.6107007 0.1785965 -3.4194 0.0006275 AD_CTY_NAMEMalaysia 0.3548907 0.1623774 2.1856 0.0288455 AD_CTY_NAMEMexico -0.1217028 0.1880236 -0.6473 0.5174546 AD_CTY_NAMEPhilippines -0.8994293 0.2734867 -3.2887 0.0010063 AD_CTY_NAMERussia 0.1794904 0.1446238 1.2411 0.2145745 AD_CTY_NAMESouth Africa -0.2321379 0.1665048 -1.3942 0.1632629 AD_CTY_NAMESouth Korea -0.1544911 0.1530015 -1.0097 0.3126217 AD_CTY_NAMETaiwan 0.2290997 0.2703286 0.8475 0.3967242 AD_CTY_NAMETurkey -0.2063543 0.1472828 -1.4011 0.1611915 AD_CTY_NAMEUkraine -0.0599725 0.1649439 -0.3636 0.7161619 AD_CTY_NAMEUSA -0.1013190 0.1612107 -0.6285 0.5296842 year2007 -0.0042136 0.0300259 -0.1403 0.8883982 year2008 0.1356313 0.0298289 4.5470 5.442e-06 year2009 -0.0497441 0.0314077 -1.5838 0.1132357 year2010 -0.2288852 0.0793997 -2.8827 0.0039429 year2011 -0.0895564 0.0601917 -1.4879 0.1367894 year2012 -0.0013019 0.0603614 -0.0216 0.9827927 year2013 -0.4140767 0.0444611 -9.3132 < 2.2e-16 year2014 -0.0206359 0.0497599 -0.4147 0.6783550 year2015 -0.2849912 0.0555714 -5.1284 2.923e-07 INV_CTY_CODEARG 0.5782584 0.2405536 2.4039 0.0162228 INV_CTY_CODEAUS -0.4980364 0.2492137 -1.9984 0.0456699 INV_CTY_CODEAUT 0.0990671 0.2700533 0.3668 0.7137363 INV_CTY_CODEBEL -0.0337714 0.1499188 -0.2253 0.8217734 INV_CTY_CODEBLR 0.2741421 0.1115783 2.4569 0.0140123 INV_CTY_CODEBRA 0.2521460 0.1339328 1.8826 0.0597505 INV_CTY_CODECAN 0.0731801 0.1833054 0.3992 0.6897274 INV_CTY_CODECHN 0.1258980 0.0899717 1.3993 0.1617211 INV_CTY_CODEDEU 0.3267579 0.1325883 2.4645 0.0137222 INV_CTY_CODEDNK -0.8708701 0.2696640 -3.2295 0.0012402 INV_CTY_CODEESP 0.0057632 0.1388925 0.0415 0.9669019 INV_CTY_CODEEUN -0.1316782 0.0992897 -1.3262 0.1847730 INV_CTY_CODEFIN 0.0225578 0.1411038 0.1599 0.8729859 INV_CTY_CODEGBR 0.3010724 0.1466836 2.0525 0.0401182 INV_CTY_CODEHKG -0.0594019 0.1292159 -0.4597 0.6457243 INV_CTY_CODEHUN -0.0983994 0.2469729 -0.3984 0.6903192 INV_CTY_CODEIDN 0.1042003 0.0955733 1.0903 0.2755960 INV_CTY_CODEIND -0.1242419 0.1229459 -1.0105 0.3122361 INV_CTY_CODEIRN -0.6152760 0.1628664 -3.7778 0.0001582 INV_CTY_CODEISR -0.6152760 0.1628664 -3.7778 0.0001582

INV_CTY_CODEITA 0.1282779 0.1289638 0.9947 0.3198913 INV_CTY_CODEJPN -0.1005054 0.1009327 -0.9958 0.3193637 INV_CTY_CODEKAZ -0.0122287 0.1658412 -0.0737 0.9412192 INV_CTY_CODEKOR 0.0826841 0.0934031 0.8852 0.3760271 INV_CTY_CODEKWT 0.5141907 0.2458669 2.0913 0.0364978 INV_CTY_CODELKA 0.3463269 0.1283535 2.6982 0.0069710 INV_CTY_CODEMAC 0.0597546 0.1355780 0.4407 0.6594016 INV_CTY_CODEMEX -0.2881304 0.1880574 -1.5321 0.1254877 INV_CTY_CODEMYS 0.1051513 0.0961201 1.0940 0.2739734 INV_CTY_CODENLD 0.2998660 0.1572226 1.9073 0.0564855 INV_CTY_CODENZL -0.6718519 0.1285357 -5.2270 1.723e-07 INV_CTY_CODEPAK 0.1920652 0.1140701 1.6837 0.0922306 INV_CTY_CODEPRK -0.3636390 0.2413072 -1.5070 0.1318224 INV_CTY_CODEPRT -0.0983994 0.2469729 -0.3984 0.6903192 INV_CTY_CODEROU 0.3245475 0.1362028 2.3828 0.0171804 INV_CTY_CODERUS -0.3277848 0.1298124 -2.5251 0.0115677 INV_CTY_CODESAU -0.3479979 0.1129692 -3.0805 0.0020668 INV_CTY_CODESGP 0.1576478 0.1281471 1.2302 0.2186184 INV_CTY_CODESRB 0.6859433 0.1482746 4.6262 3.725e-06 INV_CTY_CODESWE 0.1762723 0.1437616 1.2261 0.2201446 INV_CTY_CODETHA 0.1211601 0.0932465 1.2994 0.1938227 INV_CTY_CODETUR -0.2233861 0.1034664 -2.1590 0.0308486 INV_CTY_CODETWN 0.0848247 0.0946908 0.8958 0.3703561 INV_CTY_CODEUKR -0.5047395 0.1397607 -3.6115 0.0003045 INV_CTY_CODEUSA 0.1487455 0.0975600 1.5247 0.1273448 INV_CTY_CODEVNM 0.1456212 0.0977278 1.4901 0.1362061 INV_CTY_CODEZAF 0.2695910 0.1242456 2.1698 0.0300202

Rho: 0.0060596, LR test value: 5.9146, p-value: 0.015016 Asymptotic standard error: 0.0021048 z-value: 2.879, p-value: 0.00399 Wald statistic: 8.2884, p-value: 0.00399

Log likelihood: 106.8625 for lag model ML residual variance (sigma squared): 0.047546, (sigma: 0.21805) Number of observations: 1030 Number of parameters estimated: 87 AIC: -39.725, (AIC for lm: -35.81) LM test for residual autocorrelation test value: 6.1626, p-value: 0.013048

```
or_size <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + SLX + log(revenue)+
                      log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                      scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5  +
                      AD_CTY_NAME + year + INV_CTY_CODE,
                    data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-1
summary(or_size)
```

Call:lagsarlm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME + year + INV_CTY_CODE, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -4.038342 -0.310996 0.045995 0.411868 4.187354

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 4.4944372 0.8953776 5.0196 5.178e-07

I(fixed_assets/total_assets) 0.7530387 0.2558704 2.9430 0.0032500 SLX -0.0644606 0.0065067 -9.9068 < 2.2e-16 log(revenue) 0.3691071 0.0849569 4.3446 1.395e-05 log(total_assets) -0.3730316 0.0888311 -4.1993 2.677e-05 log(taxation + 119067.3) -0.0633331 0.0423601 -1.4951 0.1348852 log(capital + 0.5) -0.0352265 0.0262289 -1.3430 0.1792583 scale_slx2 8.5923900 1.2047051 7.1324 9.865e-13 scale_slx3 -6.2838489 0.9740341 -6.4514 1.108e-10 scale_slx4 -2.2435243 0.7110280 -3.1553 0.0016032 scale_slx5 -0.3399541 0.0955597 -3.5575 0.0003744 AD_CTY_NAMEAustralia -0.5798194 0.6472874 -0.8958 0.3703767 AD_CTY_NAMEBrazil -1.8881706 0.6825818 -2.7662 0.0056710 AD_CTY_NAMECanada 1.1646725 0.8100068 1.4379 0.1504751 AD_CTY_NAMEColombia -3.0816798 0.6773934 -4.5493 5.382e-06 AD_CTY_NAMEEuropean Union -3.7653619 0.7635950 -4.9311 8.177e-07 AD_CTY_NAMEIndia -1.0992113 0.6431136 -1.7092 0.0874135 AD_CTY_NAMEIsrael -3.0011905 0.7989382 -3.7565 0.0001723 AD_CTY_NAMEJapan -2.4232769 0.7984924 -3.0348 0.0024068 AD_CTY_NAMEMalaysia 0.6590219 0.7261365 0.9076 0.3641039 AD_CTY_NAMEMexico -0.3997862 0.8407119 -0.4755 0.6344071 AD_CTY_NAMEPhilippines -3.5213438 1.2219449 -2.8818 0.0039547 AD_CTY_NAMERussia 0.2600849 0.6468913 0.4021 0.6876446 AD_CTY_NAMESouth Africa -0.9082863 0.7445073 -1.2200 0.2224713 AD_CTY_NAMESouth Korea -1.9412651 0.6841577 -2.8375 0.0045475 AD_CTY_NAMETaiwan 0.3804593 1.2080952 0.3149 0.7528186 AD_CTY_NAMETurkey -1.3279864 0.6568184 -2.0218 0.0431921 AD_CTY_NAMEUkraine -0.0922693 0.7374320 -0.1251 0.9004266 AD_CTY_NAMEUSA -1.2014223 0.7200592 -1.6685 0.0952155 year2007 -0.0609907 0.1342228 -0.4544 0.6495417 year2008 0.1060449 0.1338509 0.7923 0.4282082 year2009 -0.8312668 0.1409055 -5.8995 3.647e-09 year2010 -1.7536757 0.3523221 -4.9775 6.442e-07 year2011 -0.9637654 0.2693326 -3.5783 0.0003458 year2012 -0.6530689 0.2713389 -2.4068 0.0160913 year2013 -2.6056667 0.2000481 -13.0252 < 2.2e-16 year2014 -1.0691140 0.2217157 -4.8220 1.421e-06 year2015 -2.2289449 0.2501405 -8.9108 < 2.2e-16 INV_CTY_CODEARG 3.2895783 1.0756377 3.0583 0.0022263 INV_CTY_CODEAUS -1.6493024 1.1144930 -1.4799 0.1389085 INV_CTY_CODEAUT 1.4496553 1.2074616 1.2006 0.2299138 INV_CTY_CODEBEL 0.2993414 0.6707390 0.4463 0.6553906 INV_CTY_CODEBLR 1.2753994 0.4988075 2.5569 0.0105610 INV_CTY_CODEBRA 1.6097580 0.5988549 2.6881 0.0071868 INV_CTY_CODECAN 0.1796600 0.8191109 0.2193 0.8263888 INV_CTY_CODECHN 1.1326501 0.4023110 2.8154 0.0048723 INV_CTY_CODEDEU 1.8893769 0.5929225 3.1865 0.0014398 INV_CTY_CODEDNK -4.2483741 1.2059060 -3.5230 0.0004267 INV_CTY_CODEESP 0.5197736 0.6210725 0.8369 0.4026506 INV_CTY_CODEEUN -0.0461205 0.4439805 -0.1039 0.9172648 INV_CTY_CODEFIN 0.6939706 0.6311987 1.0994 0.2715724 INV_CTY_CODEGBR 1.0655579 0.6560192 1.6243 0.1043164 INV_CTY_CODEHKG 0.0858798 0.5777231 0.1487 0.8818281 INV_CTY_CODEHUN -0.0398429 1.1042655 -0.0361 0.9712179 INV_CTY_CODEIDN 0.6354305 0.4272726 1.4872 0.1369677 INV_CTY_CODEIND -0.3697969 0.5492517 -0.6733 0.5007729 INV_CTY_CODEIRN -2.0382477 0.7269815 -2.8037 0.0050518 INV_CTY_CODEISR -2.0382477 0.7269815 -2.8037 0.0050518 INV_CTY_CODEITA 0.6852373 0.5742351 1.1933 0.2327501 INV_CTY_CODEJPN -0.1480245 0.4511626 -0.3281 0.7428393 INV_CTY_CODEKAZ 0.4124029 0.7421221 0.5557 0.5784107 INV_CTY_CODEKOR 0.4044927 0.4174887 0.9689 0.3326095 INV_CTY_CODEKWT 2.1618939 1.0986960 1.9677 0.0491036 INV_CTY_CODELKA 1.4490528 0.5739125 2.5249 0.0115742 INV_CTY_CODEMAC 0.5614637 0.6062649 0.9261 0.3543925 INV_CTY_CODEMEX -1.0256902 0.8407992 -1.2199 0.2225031 INV_CTY_CODEMYS 0.4260801 0.4297902 0.9914 0.3215061 INV_CTY_CODENLD 0.9749295 0.7031089 1.3866 0.1655643 INV_CTY_CODENZL -2.6546651 0.5741617 -4.6235 3.772e-06 INV_CTY_CODEPAK 0.5978324 0.5092603 1.1739 0.2404258 INV_CTY_CODEPRK -1.2556351 1.0789011 -1.1638 0.2445013 INV_CTY_CODEPRT -0.0398429 1.1042655 -0.0361 0.9712179 INV_CTY_CODEROU 0.8051633 0.6072480 1.3259 0.1848656 INV_CTY_CODERUS -1.0451533 0.5804166 -1.8007 0.0717510 INV_CTY_CODESAU -0.9392676 0.5048701 -1.8604 0.0628269 INV_CTY_CODESGP 0.9251104 0.5728144 1.6150 0.1063049 INV_CTY_CODESRB 3.2991084 0.6600981 4.9979 5.796e-07 INV_CTY_CODESWE 1.2999604 0.6425742 2.0231 0.0430679 INV_CTY_CODETHA 0.9261586 0.4170942 2.2205 0.0263847 INV_CTY_CODETUR -0.3357498 0.4627612 -0.7255 0.4681234 INV_CTY_CODETWN -0.1466139 0.4232509 -0.3464 0.7290426 INV_CTY_CODEUKR -2.4245521 0.6249953 -3.8793 0.0001048 INV_CTY_CODEUSA 1.1179321 0.4359169 2.5646 0.0103309 INV_CTY_CODEVNM 1.0762186 0.4368239 2.4637 0.0137497 INV_CTY_CODEZAF 1.2077476 0.5551445 2.1756 0.0295885

Rho: 0.014573, LR test value: 94.593, p-value: < 2.22e-16 Asymptotic standard error: 0.0011739 z-value: 12.414, p-value: < 2.22e-16 Wald statistic: 154.11, p-value: < 2.22e-16

Log likelihood: -1438.129 for lag model ML residual variance (sigma squared): 0.95056, (sigma: 0.97497)

Number of observations: 1030 Number of parameters estimated: 87 AIC: 3050.3, (AIC for lm: 3142.9) LM test for residual autocorrelation test value: 3.9764, p-value: 0.046142

```
# control for complaints against foreign firm
dec_foreign <- lagsarlm(decision ~ I(fixed_assets/total_assets) + log(av_comp)  + SLX + log(revenue)+
                          log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                          scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5
                        + AD_CTY_NAME + year,
                        data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.
summary(dec_foreign)
```

Call:lagsarlm(formula = decision ~ I(fixed_assets/total_assets) + log(av_comp) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME + year, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.129426 -0.051020 0.014041 0.109305 0.793654

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 1.2558686 0.1887094 6.6550 2.832e-11 I(fixed_assets/total_assets) 0.2609567 0.0641133 4.0702 4.696e-05 log(av_comp) -0.0646143 0.0086363 -7.4817 7.327e-14 SLX -0.0035591 0.0031672 -1.1237 0.2611366 log(revenue) 0.0855821 0.0209465 4.0857 4.394e-05 log(total_assets) -0.0765094 0.0220025 -3.4773 0.0005065 log(taxation + 119067.3) -0.0322510 0.0107921 -2.9884 0.0028044 log(capital + 0.5) -0.0161302 0.0066454 -2.4273 0.0152123 scale_slx2 2.0113864 0.2822932 7.1252 1.040e-12 scale_slx3 -1.7615325 0.2434721 -7.2350 4.654e-13 scale_slx4 -0.2458950 0.1943692 -1.2651 0.2058383 scale_slx5 -0.0781046 0.0251475 -3.1059 0.0018972 AD_CTY_NAMEAustralia 0.2221471 0.1472121 1.5090 0.1312918 AD_CTY_NAMEBrazil -0.2751144 0.1505127 -1.8278 0.0675723 AD_CTY_NAMECanada 0.2570214 0.1896972 1.3549 0.1754484 AD_CTY_NAMEColombia -0.5006947 0.1501747 -3.3341 0.0008558 AD_CTY_NAMEEuropean Union -0.4439365 0.1851574 -2.3976 0.0165021 AD_CTY_NAMEIndia 0.1183734 0.1490566 0.7942 0.4271077 AD_CTY_NAMEIsrael -0.9268666 0.1804187 -5.1373 2.787e-07 AD_CTY_NAMEJapan -0.1842330 0.1934658 -0.9523 0.3409568 AD_CTY_NAMEMalaysia 0.6454292 0.1689850 3.8194 0.0001338 AD_CTY_NAMEMexico -0.1377174 0.1822566 -0.7556 0.4498748 AD_CTY_NAMEPhilippines -0.3374654 0.3105751 -1.0866 0.2772214 AD_CTY_NAMERussia 0.2260575 0.1430113 1.5807 0.1139474 AD_CTY_NAMESouth Africa -0.0836531 0.1610577 -0.5194 0.6034829 AD_CTY_NAMESouth Korea -0.0583099 0.1525648 -0.3822 0.7023150 AD_CTY_NAMETaiwan 0.4578685 0.3001122 1.5257 0.1270951 AD_CTY_NAMETurkey 0.0539187 0.1468736 0.3671 0.7135370 AD_CTY_NAMEUkraine 0.1624620 0.1622021 1.0016 0.3165355 AD_CTY_NAMEUSA -0.0548414 0.1614896 -0.3396 0.7341599 year2007 -0.0289744 0.0328006 -0.8833 0.3770473 year2008 0.1009223 0.0330722 3.0516 0.0022765 year2009 -0.0825614 0.0328646 -2.5122 0.0119991 year2010 -0.3207594 0.0857136 -3.7422 0.0001824 year2011 -0.1438600 0.0613772 -2.3439 0.0190850 year2012 0.0335629 0.0639281 0.5250 0.5995761

year2013 -0.4130583 0.0466668 -8.8512 < 2.2e-16 year2014 -0.0375326 0.0502619 -0.7467 0.4552204 year2015 -0.2371055 0.0579641 -4.0906 4.303e-05

Rho: 0.007372, LR test value: 8.4902, p-value: 0.0035706 Asymptotic standard error: 0.002131 z-value: 3.4594, p-value: 0.00054131 Wald statistic: 11.968, p-value: 0.00054131

Log likelihood: -46.21043 for lag model ML residual variance (sigma squared): 0.06398, (sigma: 0.25294) Number of observations: 1030 Number of parameters estimated: 41 AIC: 174.42, (AIC for lm: 180.91) LM test for residual autocorrelation test value: 18.782, p-value: 1.4652e-05

```
size_foreign <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets)+ log(av_comp) + SLX + log(re
                           log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                           scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5  +
                           AD_CTY_NAME + year,
                         data = firm_data, panel.weight, method="eigen",  zero.policy=TRUE, tol.solve=1
summary(size_foreign)
```

Call:lagsarlm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + log(av_comp) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME + year, data = firm_data, listw = panel.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -5.28569 -0.30877 0.10204 0.51546 4.43746

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 174 175 176 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 312 313 314 315 316 317 318 319 320 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 525 526 527 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 908 909 910 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 1002 1003 1004 1005 1006 1007 1008 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 5.1139788 0.8586832 5.9556 2.591e-09 I(fixed_assets/total_assets) 0.5224033 0.2927760 1.7843 0.074373 log(av_comp) -0.2727109 0.0393421 -6.9318 4.156e-12 SLX -0.0752548 0.0065320 -11.5210 < 2.2e-16 log(revenue) 0.5515319 0.0950093 5.8050 6.435e-09 log(total_assets) -0.5197059 0.0997370 -5.2108 1.881e-07 log(taxation + 119067.3) -0.0458441 0.0490368 -0.9349 0.349844 log(capital + 0.5) -0.0641467 0.0301610 -2.1268 0.033436 scale_slx2 8.8631872 1.2906373 6.8673 6.543e-12 scale_slx3 -6.8418873 1.0193811 -6.7118 1.922e-11 scale_slx4 -1.8642284 0.8299572 -2.2462 0.024693 scale_slx5 -0.2668620 0.1093481 -2.4405 0.014668 AD_CTY_NAMEAustralia -0.3429431 0.6705936 -0.5114 0.609069 AD_CTY_NAMEBrazil -1.6923091 0.6860464 -2.4668 0.013634 AD_CTY_NAMECanada 0.6638410 0.8646382 0.7678 0.442625 AD_CTY_NAMEColombia -2.8355522 0.6845278 -4.1423 3.438e-05 AD_CTY_NAMEEuropean Union -2.3481083 0.8439673 -2.7822 0.005399 AD_CTY_NAMEIndia 0.0040754 0.6793861 0.0060 0.995214 AD_CTY_NAMEIsrael -4.7072483 0.8223275 -5.7243 1.039e-08 AD_CTY_NAMEJapan -1.1789337 0.8818131 -1.3369 0.181241 AD_CTY_NAMEMalaysia 1.3648360 0.7699707 1.7726 0.076298 AD_CTY_NAMEMexico -1.0171215 0.8307948 -1.2243 0.220848 AD_CTY_NAMEPhilippines -1.9332131 1.4145045 -1.3667 0.171717 AD_CTY_NAMERussia 0.0485261 0.6519512 0.0744 0.940667 AD_CTY_NAMESouth Africa -1.0698759 0.7340947 -1.4574 0.145004 AD_CTY_NAMESouth Korea -1.8479562 0.6953622 -2.6575 0.007871 AD_CTY_NAMETaiwan

1.0434811 1.3673080 0.7632 0.445365 AD_CTY_NAMETurkey -0.6595705 0.6681069 -0.9872 0.323533 AD_CTY_NAMEUkraine 0.4193355 0.7392694 0.5672 0.570558 AD_CTY_NAMEUSA -1.3607618 0.7351940 -1.8509 0.064186 year2007 0.0576929 0.1492670 0.3865 0.699120 year2008 0.0801040 0.1515866 0.5284 0.597196 year2009 -0.8237156 0.1507956 -5.4625 4.696e-08 year2010 -1.7657225 0.3887506 -4.5420 5.571e-06 year2011 -1.1578277 0.2798966 -4.1366 3.524e-05 year2012 -0.3805792 0.2917204 -1.3046 0.192028 year2013 -2.3699466 0.2133236 -11.1096 < 2.2e-16 year2014 -0.9928968 0.2245574 -4.4216 9.799e-06 year2015 -1.8202484 0.2655409 -6.8549 7.138e-12

Rho: 0.015296, LR test value: 94.671, p-value: < 2.22e-16 Asymptotic standard error: 0.0010643 z-value: 14.372, p-value: < 2.22e-16 Wald statistic: 206.54, p-value: < 2.22e-16

Log likelihood: -1611.295 for lag model ML residual variance (sigma squared): 1.3293, (sigma: 1.1529) Number of observations: 1030 Number of parameters estimated: 41 AIC: 3304.6, (AIC for lm: 3397.3) LM test for residual autocorrelation test value: 4.4618e-05, p-value: 0.99467

```
stargazer(or_dec, or_size,
          dec_foreign, size_foreign,
          keep = c("fixed_assets/total_assets", "av_comp"),
          covariate.labels = c("Asset Specificity",
                               "Other Complaints Re. Foreign Firm"),
          dep.var.labels = c("Dumping Decision", "Duty Size",
                             "Dumping Decision", "Duty Size"),
          add.lines = list(c("Country FE?", "Yes", "Yes", "Yes", "Yes"),
                           c("Year FE?", "Yes", "Yes", "Yes", "Yes"),
                           c("Firm Covariates?", "Yes", "Yes", "Yes", "Yes")),
          title = "Characteristics of Foreign Firms and their Countries of Origin",
          label = "tab:legit" )
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:27:06

Table 7: Characteristics of Foreign Firms and their Countries of Origin

	Dependent variable:			
	Dumping Decision	Duty Size	Dumping Decision	Duty Size
	(1)	(2)	(3)	(4)
Asset Specificity	0.303***	0.753***	0.261***	0.522*
	(0.057)	(0.256)	(0.064)	(0.293)
Other Complaints Re. Foreign Firm			−0.065***	−0.273***
			(0.009)	(0.039)
Country FE?	Yes	Yes	Yes	Yes
Year FE?	Yes	Yes	Yes	Yes
Firm Covariates?	Yes	Yes	Yes	Yes
Observations	1,030	1,030	1,030	1,030
Log Likelihood	106.863	−1,438.129	−46.210	−1,611.295
σ^2	0.048	0.951	0.064	1.329
Akaike Inf. Crit.	−39.725	3,050.258	174.421	3,304.591
Wald Test (df = 1)	8.288***	154.107***	11.968***	206.540***
LR Test (df = 1)	5.915**	94.593***	8.490***	94.671***
Note:				*p<0.1; **p<0.05; ***p<0.01

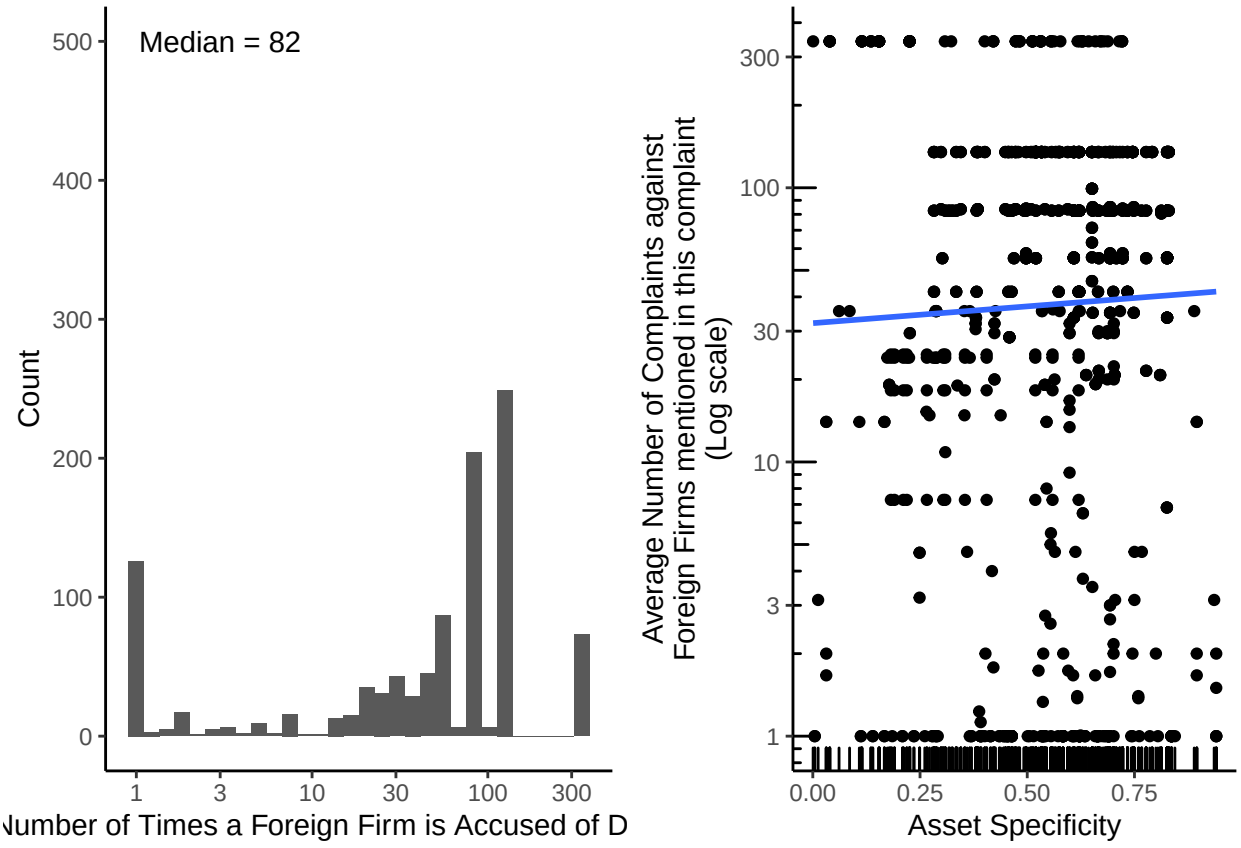
##Figure E1

```
###############
# FIGURE E1: The Role of Repeat Dumpers

p1 <- ggplot(firm_data, aes(x = av_comp)) +
  geom_histogram() +
  theme_classic() +
  scale_x_log10(breaks = scales::breaks_log(n = 6)) +
  annotate(geom = "text", x = 3, y = 500,
           label = paste("Median =", round(median(firm_data$av_comp,na.rm=T)))) +
  labs(x = "Number of Times a Foreign Firm is Accused of Dumping",
       y = "Count")


# ggsave(p, filename = "images/DistOfComp.eps",
#        device = cairo_ps)

p2<-ggplot(firm_data, aes(x = mobility, y = av_comp)) +
  geom_point() +
  geom_smooth(method = "lm", se = F) +
  theme_classic() +
  scale_y_log10(breaks = scales::breaks_log(n = 6)) +
  annotation_logticks(sides="l") +
  geom_rug(sides = "b") +
  labs(x = "Asset Specificity",
       y = "Average Number of Complaints against\nForeign Firms mentioned in this complaint\n(Log scale)


p <- plot_grid(p1,p2)
```

```
## `stat_bin()` using `bins = 30`. Pick better value with `binwidth`.
```

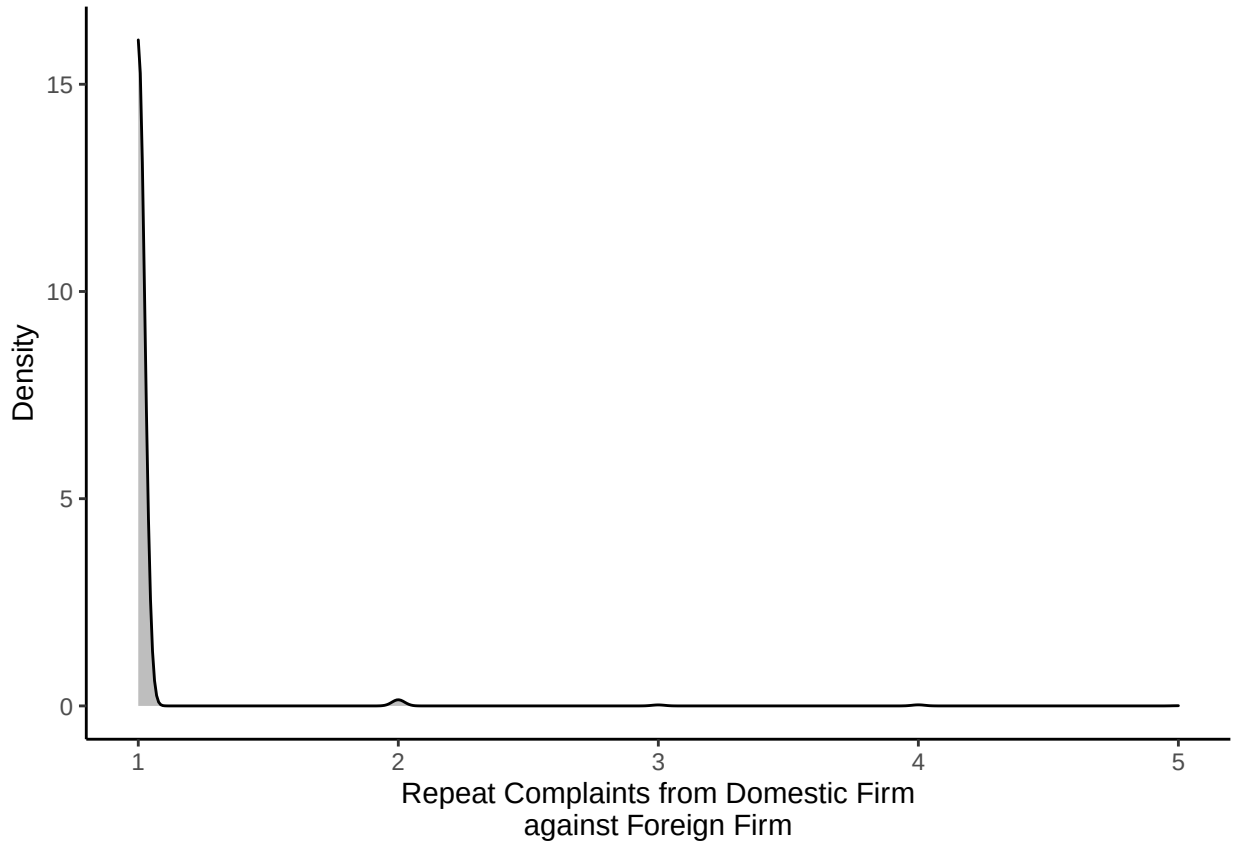
```
## `geom_smooth()` using formula 'y ~ x'
```

```
# ggsave(p, filename = "images/SpecVsComp.eps",
#        device = cairo_ps)

p
```



##Figure E3

```
##############
# FIGURE E2: Repeat Complaints by Domestic Firms

n_repeat <- readRDS("RepeatComplainers.rds")

repeat_p<- ggplot(n_repeat, aes(x = n_repeat)) +
  geom_density(fill = "grey") +
  theme_classic() +
  labs(x = "Repeat Complaints from Domestic Firm\nagainst Foreign Firm",
       y = "Density")

repeat_p
```




```
# ggsave(repeat_p, filename = "images/RepeatComplaint.eps",
#        device = cairo_ps,
#        width = 5.5, height = 3.8)
```

##Table E3

```
##############
# TABLE E3:

'%!in%' <- function(x,y)!('%in%'(x,y))

w.mat2 <- readRDS("outlier_weights_matrix.rds")

excl.weight <- get.adjacency(w.mat2, attr='weight')
excl.weight <- as.matrix(excl.weight)
excl.weight <- mat2listw(excl.weight)

excl <- firm_data %>%
  dplyr::filter(AD_CTY_NAME %!in% c("Taiwan", "Philippines",
                                    "European Union", "Japan", "Israel"))


dec_excl <- lagsarlm(decision ~ I(fixed_assets/total_assets)   + SLX + log(revenue)+
                       log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                       scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5  + AD_CTY_NAME + year,
                     data = excl, excl.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-11, co
summary(dec_excl)
```

Call:lagsarlm(formula = decision ~ I(fixed_assets/total_assets) + SLX + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME + year, data = excl, listw = excl.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.068482 -0.046680 0.027426 0.123619 0.823400

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 168 169 170 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 306 307 308 309 310 311 312 313 314 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 519 520 521 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 891 892 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 984 985 986 987 988 989 990 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 1.3702269 0.1949212 7.0296 2.071e-12 I(fixed_assets/total_assets) 0.3518900 0.0651174 5.4039 6.520e-08 SLX -0.0063879 0.0031378 -2.0358 0.0417705 log(revenue) 0.0887343 0.0216541 4.0978 4.171e-05 log(total_assets) -0.0758663 0.0227688 -3.3320 0.0008621 log(taxation + 119067.3) -0.0404239 0.0111328 -3.6311 0.0002823 log(capital + 0.5) -0.0193464 0.0068694 -2.8163 0.0048577 scale_slx2 1.8610828 0.2918984 6.3758 1.820e-10 scale_slx3 -1.4466149 0.2485136 -5.8211 5.847e-09 scale_slx4 -0.4020397 0.1993344 -2.0169 0.0437048 scale_slx5 -0.0907203 0.0258985 -3.5029 0.0004602 AD_CTY_NAMEAustralia -0.0229909 0.1483742 -0.1550 0.8768593 AD_CTY_NAMEBrazil -0.5172171 0.1521377 -3.3997 0.0006747 AD_CTY_NAMECanada 0.1646006 0.1959469 0.8400 0.4008936 AD_CTY_NAMEColombia -0.5641031 0.1552297 -3.6340 0.0002791 AD_CTY_NAMEIndia -0.2606121 0.1451917 -1.7950 0.0726614 AD_CTY_NAMEMalaysia 0.3393921 0.1698426 1.9983 0.0456869 AD_CTY_NAMEMexico -0.2681970 0.1877836 -1.4282 0.1532276 AD_CTY_NAMERussia 0.0216378 0.1453688 0.1488 0.8816740 AD_CTY_NAMESouth Africa -0.1759098 0.1662628 -1.0580 0.2900453 AD_CTY_NAMESouth Korea -0.1878513 0.1569292 -1.1970 0.2312891 AD_CTY_NAMETurkey -0.2401730 0.1467282 -1.6369 0.1016605 AD_CTY_NAMEUkraine -0.0390718 0.1656540 -0.2359 0.8135383 AD_CTY_NAMEUSA -0.1920255 0.1659416 -1.1572 0.2471959 year2007 -0.0257350 0.0339449 -0.7581 0.4483675 year2008 0.1060429 0.0342033 3.1004 0.0019328 year2009 -0.0893884 0.0339916 -2.6297 0.0085456 year2010 -0.1912591 0.0869522 -2.1996 0.0278362 year2011 -0.0822708 0.0629631 -1.3067 0.1913312 year2012 -0.0360805 0.0654149 -0.5516 0.5812469 year2013 -0.3891238 0.0481891 -8.0749 6.661e-16 year2014 -0.0351263 0.0516408 -0.6802 0.4963755 year2015 -0.2793046 0.0597304 -4.6761 2.924e-06

Rho: 0.0094503, LR test value: 13.59, p-value: 0.00022739 Asymptotic standard error: 0.002095 z-value: 4.5108, p-value: 6.4593e-06 Wald statistic: 20.347, p-value: 6.4593e-06

Log likelihood: -80.80029 for lag model ML residual variance (sigma squared): 0.068562, (sigma: 0.26184) Number of observations: 1012 Number of parameters estimated: 35 AIC: 231.6, (AIC for lm: 243.19) LM test for residual autocorrelation test value: 45.481, p-value: 1.541e-11

```
size_excl <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + SLX + log(revenue)+
                        log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                        scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5  + AD_CTY_NAME + year,
                      data = excl, excl.weight, method="eigen",  zero.policy=TRUE, tol.solve=1.0e-11, c
summary(size_excl)
```

Call:lagsarlm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + SLX + log(revenue) +

log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5 + AD_CTY_NAME + year, data = excl, listw = excl.weight, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -4.74894 -0.33417 0.14907 0.55617 4.15520

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 168 169 170 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 306 307 308 309 310 311 312 313 314 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 519 520 521 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 891 892 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 984 985 986 987 988 989 990 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 Coefficients: (asymptotic standard errors) Estimate Std. Error z value Pr(>|z|) (Intercept) 5.5489905 0.8840470 6.2768 3.456e-10 I(fixed_assets/total_assets) 0.9210926 0.2962051 3.1096 0.0018731 SLX -0.0758752 0.0064244 -11.8105 < 2.2e-16 log(revenue) 0.5736965 0.0976654 5.8741 4.251e-09 log(total_assets) -0.5259949 0.1026895 -5.1222 3.020e-07 log(taxation + 119067.3) -0.0782208 0.0503939 -1.5522 0.1206170 log(capital + 0.5) -0.0758240 0.0310649 -2.4408 0.0146539 scale_slx2 8.2837834 1.3218541 6.2668 3.686e-10 scale_slx3 -5.8475464 1.0277713 -5.6895 1.274e-08 scale_slx4 -2.2520320 0.8539107 -2.6373 0.0083565 scale_slx5 -0.2932999 0.1125220 -2.6066 0.0091446 AD_CTY_NAMEAustralia -1.4020473 0.6735782 -2.0815 0.0373889 AD_CTY_NAMEBrazil -2.7183569 0.6911668 -3.9330 8.389e-05 AD_CTY_NAMECanada 0.2702394 0.8902022 0.3036 0.7614549 AD_CTY_NAMEColombia -3.0940968 0.7052548 -4.3872 1.148e-05 AD_CTY_NAMEIndia -1.5911382 0.6596459 -2.4121 0.0158605 AD_CTY_NAMEMalaysia 0.0856140 0.7714181 0.1110 0.9116302 AD_CTY_NAMEMexico -1.5772920 0.8531764 -1.8487 0.0644970 AD_CTY_NAMERussia -0.8108609 0.6604953 -1.2277 0.2195762 AD_CTY_NAMESouth Africa -1.4504924 0.7553570 -1.9203 0.0548233 AD_CTY_NAMESouth Korea -2.3954698 0.7127935 -3.3607 0.0007775 AD_CTY_NAMETurkey -1.8647061 0.6656817 -2.8012 0.0050913 AD_CTY_NAMEUkraine -0.4187594 0.7525855 -0.5564 0.5779185 AD_CTY_NAMEUSA -1.9721440 0.7530174 -2.6190 0.0088191 year2007 0.0669934 0.1536895 0.4359 0.6629087 year2008 0.1061266 0.1559482 0.6805 0.4961725 year2009 -0.8497209 0.1551740 -5.4759 4.352e-08 year2010 -1.2402085 0.3931740 -3.1543 0.0016086 year2011 -0.9018545 0.2859329 -3.1541 0.0016101 year2012 -0.6778474 0.2967941 -2.2839 0.0223775 year2013 -2.2679105 0.2189315 -10.3590 < 2.2e-16 year2014 -0.9169881 0.2315240 -3.9607 7.474e-05 year2015 -1.9952409 0.2720160 -7.3350 2.216e-13

Rho: 0.015626, LR test value: 96.57, p-value: < 2.22e-16 Asymptotic standard error: 0.00095771 z-value: 16.316, p-value: < 2.22e-16 Wald statistic: 266.2, p-value: < 2.22e-16

Log likelihood: -1615.15 for lag model ML residual variance (sigma squared): 1.4152, (sigma: 1.1896) Number of observations: 1012 Number of parameters estimated: 35 AIC: 3300.3, (AIC for lm: 3394.9) LM test for residual autocorrelation test value: 2.7327, p-value: 0.098315

```
stargazer(dec_excl, size_excl,
          keep = c("fixed_assets/total_assets"),
          covariate.labels = c("Asset Specificity"),
          dep.var.labels = c("Dumping Decision", "Duty Size"),
          add.lines = list(c("Country FE?", "Yes", "Yes", "Yes", "Yes"),
                           c("Year FE?", "Yes", "Yes", "Yes", "Yes"),
                           c("Firm Covariates?", "Yes", "Yes", "Yes", "Yes")),
```

```
          title = "Excluding Non-Typical Countries",
          label = "tab:excl" )
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:27:15

Table 8: Excluding Non-Typical Countries

	Dependent variable:	
	Dumping Decision	Duty Size
	(1)	(2)
Asset Specificity	0.352***	0.921***
	(0.065)	(0.296)
Country FE?	Yes	Yes
Year FE?	Yes	Yes
Firm Covariates?	Yes	Yes
Observations	1,012	1,012
Log Likelihood	−80.800	−1,615.150
σ^2	0.069	1.415
Akaike Inf. Crit.	231.601	3,300.299
Wald Test (df = 1)	20.347***	266.201***
LR Test (df = 1)	13.590***	96.570***
Note:	*p<0.1; **p<0.05; ***p<0.01	

##Table E4

```
###################
# TABLE E4: Chinese firms

sub_ch <- readRDS("china_data.rds")

ch_mod1 <- lm(decision ~ I(fixed_assets/total_assets) + log(revenue) +
                log(total_assets) + log(taxation+ 119067.3),
              data = sub_ch)

summary(ch_mod1)
```

```
## Warning in summary.lm(ch_mod1): essentially perfect fit: summary may be
## unreliable
```

Call: lm(formula = decision ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + log(taxation + 119067.3), data = sub_ch)

Residuals: Min 1Q Median 3Q Max -1.676e-16 -1.100e-16 -2.950e-17 -7.100e-18 3.676e-15

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 1.000e+00 1.096e-15 9.125e+14 <2e-16 *** I(fixed_assets/total_assets) 3.373e-16 2.774e-16 1.216e+00 0.228
log(revenue) -5.293e-18 7.441e-17 -7.100e-02 0.943
log(total_assets) -1.075e-17 8.133e-17 -1.320e-01 0.895
log(taxation + 119067.3) -1.572e-18 1.194e-16 -1.300e-02 0.990
— Signif. codes: 0 ‘’ ***0.001*** ’’ *0.01* ’’ 0.05 ‘.’ 0.1 ’ ’ 1

Residual standard error: 4.511e-16 on 69 degrees of freedom (274 observations deleted due to missingness) Multiple R-squared: 0.506, Adjusted R-squared: 0.4773 F-statistic: 17.67 on 4 and 69 DF, p-value: 5.013e-10

```
ch_mod2 <- lm(log(wto_final +.5) ~ I(fixed_assets/total_assets)+ log(revenue) +
                log(total_assets) + log(taxation+ 119067.3) ,
              data = sub_ch)

summary(ch_mod2)
```

Call: lm(formula = log(wto_final + 0.5) ~ I(fixed_assets/total_assets) + log(revenue) + log(total_assets) + log(taxation + 119067.3), data = sub_ch)

Residuals: Min 1Q Median 3Q Max -1.09621 -0.38952 0.02179 0.26835 1.22372

Coefficients: Estimate Std. Error t value Pr(>|t|)
(Intercept) 4.42301 1.29807 3.407 0.0011 ** I(fixed_assets/total_assets) 0.85277 0.32855 2.596 0.0115 *
log(revenue) 0.04604 0.08814 0.522 0.6031
log(total_assets) -0.07317 0.09633 -0.760 0.4501
log(taxation + 119067.3) -0.12710 0.14142 -0.899 0.3719
— Signif. codes: 0 ‘’ ***0.001*** ’’ *0.01* ’’ 0.05 ‘.’ 0.1 ’ ’ 1

Residual standard error: 0.5344 on 69 degrees of freedom (274 observations deleted due to missingness) Multiple R-squared: 0.1115, Adjusted R-squared: 0.05997 F-statistic: 2.164 on 4 and 69 DF, p-value: 0.08213

```
stargazer(ch_mod1, ch_mod2,
          covariate.labels = c("Asset Specificity", "Revenue (logged)",
                               "Total Assets (logged)", "Taxation (logged)"),
          omit.stat = c("ser","rsq", "adj.rsq", "f", "aic"),
          df = F,
          title = "Results for Chinese Firms",
          label = "tab:china" )
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: sø, nov 29, 2020 - 10:27:15

##Figure E3

```
###############
# FIGURE E3: Robustness to Excluding Firms

# load weights matrix again
w.mat2 <- readRDS("main_weights_matrix.rds")


cl <- makeCluster(detectCores()-1) # create a cluster with 7 cores
registerDoParallel(cl) # register the cluster

res <- foreach(i = 1:nrow(firm_data),
               .combine = "rbind",
               .packages = c("igraph", "spatialreg", "spdep")) %dopar% {

                 loo <- firm_data[-c(i), ]

                 loo_mat <- get.adjacency(w.mat2, attr='weight')

                 loo_mat <- loo_mat[-c(i), -c(i)]

                 loo.weight <- as.matrix(loo_mat)
```

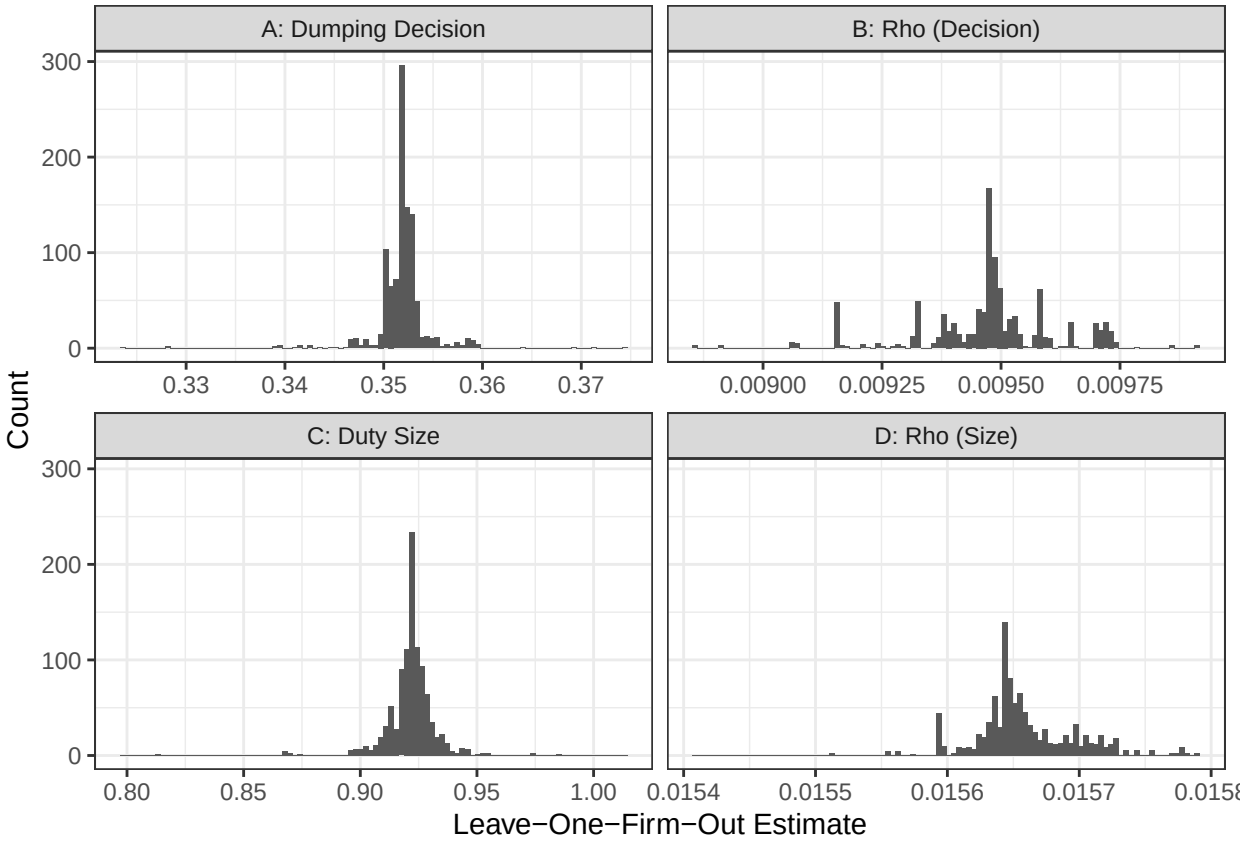
Table 9: Results for Chinese Firms

	Dependent variable:	
	decision	log(wto_final + 0.5)
	(1)	(2)
Asset Specificity	0.000	0.853**
	(0.000)	(0.329)
Revenue (logged)	−0.000	0.046
	(0.000)	(0.088)
Total Assets (logged)	−0.000	−0.073
	(0.000)	(0.096)
Taxation (logged)	−0.000	−0.127
	(0.000)	(0.141)
Constant	1.000***	4.423***
	(0.000)	(1.298)
Observations	74	74
Note:		*p<0.1; **p<0.05; ***p<0.01

```
                loo.weight <- mat2listw(loo.weight)

                dec_loo <- lagsarlm(decision ~ I(fixed_assets/total_assets)   + SLX + log(revenue)+
                                      log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                                      scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5  +
                                      AD_CTY_NAME + year,
                                    data = loo, loo.weight, method="eigen",  zero.policy=TRUE, tol.sol

                size_loo <- lagsarlm(log(wto_final +.5) ~ I(fixed_assets/total_assets) + SLX + log(rev
                                       log(total_assets) + log(taxation+ 119067.3) + log(capital+.5) +
                                       scale_slx2 + scale_slx3 + scale_slx4 + scale_slx5  +
                                       AD_CTY_NAME + year,
                                     data = loo, loo.weight, method="eigen",  zero.policy=TRUE, tol.so

                loo_res <- c(coef(dec_loo)[3], dec_loo$rho,
                             coef(size_loo)[3], size_loo$rho)

                # return the coefficients
                loo_res
              }
stopCluster(cl) # shut down the cluster

res <- as.data.frame(res)

names(res) <- c("dec_loo", "dec_rho", "duty_loo", "duty_rho")

loo_res_long <- melt(res)
```

```
## No id variables; using all as measure variables
```

```
loo_res_long$parm <- ifelse(loo_res_long$variable == "dec_loo",
                            "A: Dumping Decision",
                            ifelse(loo_res_long$variable == "dec_rho", "B: Rho (Decision)",
                                   ifelse(loo_res_long$variable == "duty_loo", "C: Duty Size", "D: Rho
)


p<-ggplot(loo_res_long, aes(x = value)) +
  geom_histogram(bins = 100) +
  facet_wrap(~parm, scales = "free_x") +
  theme_bw() +
  labs(x = "Leave-One-Firm-Out Estimate",
       y = "Count")

p
```




```
ggsave(p, filename = "images/Loo_est.eps",
       device = cairo_ps,
       width = 5.5, height = 5.5)
```

Figure F1

```
#-----------------------------------------------------------------------
# APPENDIX F: Investigating the Mechanism
```

```
#-------------------------------------------------------------

w.mat2 <- readRDS("weights_alternative_mech.rds")

panel.weight2 <- get.adjacency(w.mat2, attr='weight')
panel.weight2 <- as.matrix(panel.weight2)
panel.weight2 <- mat2listw(panel.weight2)

crnt.df <- dplyr::select(econ_dat, decision, wto_final, fixed_assets, total_assets, revenue, total_asse
                         year, CASE_ID, PRODUCT, AD_CTY_NAME)
firm_data2 <- as.data.frame(na.omit(crnt.df))
firm_data2 <- subset(firm_data2,log(taxation+119067.3) > 0)

firm_data2$mobility <- firm_data2$fixed_assets/firm_data2$total_assets
firm_data2$log_tax <- log(firm_data2$taxation+119067.3)
firm_data2$log_emp <- log(firm_data2$employees+.5)


############
# interactions with number of employees

dec.emp <- lagsarlm(decision ~ mobility*log_emp+ log(revenue) +
                      log(total_assets) + log(taxation+119067.3) +
                      log(capital +.5) + AD_CTY_NAME + factor(year),
                    data = firm_data2, panel.weight2, method="eigen",  zero.policy=TRUE, tol.solve=1.0e
```

```
## Warning in lagsarlm(decision ~ mobility * log_emp + log(revenue) +
## log(total_assets) + : Aliased variables found: factor(year)2011
```

```
summary(dec.emp)
```

Call:lagsarlm(formula = decision ~ mobility * log_emp + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + AD_CTY_NAME + factor(year), data = firm_data2, listw = panel.weight2, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -9.1264e-01 -2.3817e-03 -1.7564e-17 4.3687e-03 8.7357e-02

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 165 166 167 168 169 170 171 172 177 178 179 180 181 226 227 228 229 230 231 232 241 242 243 244 245 246 247 248 249 250 251 Coefficients: (asymptotic standard errors) (1 not defined because of singularities) Estimate Std. Error z value Pr(>|z|) (Intercept) 0.9676765 0.1438130 6.7287 1.712e-11 mobility 0.0433149 0.0785233 0.5516 0.58121 log_emp 0.0036527 0.0062162 0.5876 0.55679 log(revenue) 0.0095423 0.0138139 0.6908 0.48971 log(total_assets) -0.0060150 0.0153093 -0.3929 0.69440 log(taxation + 119067.3) -0.0064853 0.0150766 -0.4302 0.66708 log(capital + 0.5) -0.0010345 0.0037630 -0.2749 0.78337 AD_CTY_NAMEBrazil 0.0510982 0.0490830 1.0411 0.29785 AD_CTY_NAMECanada 0.0209087 0.0423867 0.4933 0.62181 AD_CTY_NAMEIndia 0.0457122 0.0381503 1.1982 0.23083 AD_CTY_NAMEMexico 0.1198423 0.0789860 1.5173 0.12920 AD_CTY_NAMERussia 0.0508468 0.0341589 1.4885 0.13661 AD_CTY_NAMESouth Africa 0.0184535 0.0505526 0.3650 0.71509 AD_CTY_NAMESouth Korea 0.0579609 0.0464097 1.2489 0.21170 AD_CTY_NAMETaiwan 0.1021310 0.0817804 1.2488 0.21172 AD_CTY_NAMETurkey 0.0812368 0.0321428 2.5274 0.01149 AD_CTY_NAMEUkraine 0.0629730 0.0507073 1.2419 0.21428 AD_CTY_NAMEUSA 0.0437574 0.0346621 1.2624 0.20681 factor(year)2007 -0.0023763 0.0256700 -0.0926 0.92624 factor(year)2008 -0.0030579 0.0267070 -0.1145 0.90884 factor(year)2009 0.0096078 0.0185795 0.5171 0.60507 factor(year)2010

-0.0351791 0.0482684 -0.7288 0.46611 factor(year)2011 NA NA NA NA factor(year)2012 0.0155496 0.0317097 0.4904 0.62387 factor(year)2013 -0.0467007 0.0333541 -1.4001 0.16147 factor(year)2014 0.0125324 0.0342287 0.3661 0.71426 factor(year)2015 0.0203893 0.0380200 0.5363 0.59177 mobility:log_emp -0.0055801 0.0143187 -0.3897 0.69675

Rho: -0.00099635, LR test value: 0.55282, p-value: 0.45717 Asymptotic standard error: 0.0013381 z-value: -0.74462, p-value: 0.4565 Wald statistic: 0.55446, p-value: 0.4565

Log likelihood: 344.9878 for lag model ML residual variance (sigma squared): 0.0036652, (sigma: 0.060541) Number of observations: 249 Number of parameters estimated: 29 AIC: -631.98, (AIC for lm: -633.42) LM test for residual autocorrelation test value: 0.012693, p-value: 0.9103

```
coef_emp1 <- coef(dec.emp)[length(coef(dec.emp))]
se_emp1 <- sqrt(diag(vcov(dec.emp)))[length(coef(dec.emp))]

duty.emp <- lagsarlm(log(wto_final+.5) ~ mobility*log_emp+ log(revenue) + log(total_assets) +
                       log(taxation+119067.3) + log(capital +.5) +
                       AD_CTY_NAME + factor(year),
                     data = firm_data2, panel.weight2, method="eigen",  zero.policy=TRUE, tol.solve=1.0
```

```
## Warning in lagsarlm(log(wto_final + 0.5) ~ mobility * log_emp + log(revenue) + :
## Aliased variables found: factor(year)2011
```

```
summary(duty.emp)
```

Call:lagsarlm(formula = log(wto_final + 0.5) ~ mobility * log_emp + log(revenue) + log(total_assets) + log(taxation + 119067.3) + log(capital + 0.5) + AD_CTY_NAME + factor(year), data = firm_data2, listw = panel.weight2, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.733224 -0.213424 -0.025163 0.258788 1.285034

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 165 166 167 168 169 170 171 172 177 178 179 180 181 226 227 228 229 230 231 232 241 242 243 244 245 246 247 248 249 250 251 Coefficients: (asymptotic standard errors) (1 not defined because of singularities) Estimate Std. Error z value Pr(>|z|) (Intercept) 1.572206 1.201347 1.3087 0.1906350 mobility 0.170470 0.646752 0.2636 0.7921045 log_emp 0.044589 0.050270 0.8870 0.3750844 log(revenue) -0.156675 0.116280 -1.3474 0.1778541 log(total_assets) 0.150818 0.128255 1.1759 0.2396254 log(taxation + 119067.3) 0.148469 0.125723 1.1809 0.2376344 log(capital + 0.5) -0.067495 0.031149 -2.1669 0.0302452 AD_CTY_NAMEBrazil 1.222402 0.409541 2.9848 0.0028375 AD_CTY_NAMECanada 1.145370 0.353074 3.2440 0.0011787 AD_CTY_NAMEIndia 0.615652 0.318006 1.9360 0.0528709 AD_CTY_NAMEMexico 0.440244 0.657452 0.6696 0.5030990 AD_CTY_NAMERussia 0.299272 0.283253 1.0566 0.2907159 AD_CTY_NAMESouth Africa 0.568474 0.419104 1.3564 0.1749704 AD_CTY_NAMESouth Korea -0.710060 0.386777 -1.8358 0.0663816 AD_CTY_NAMETaiwan 0.468415 0.681564 0.6873 0.4919155 AD_CTY_NAMETurkey 0.707910 0.265594 2.6654 0.0076900 AD_CTY_NAMEUkraine 0.877287 0.422702 2.0754 0.0379470 AD_CTY_NAMEUSA -0.306679 0.288753 -1.0621 0.2881993 factor(year)2007 0.723052 0.213870 3.3808 0.0007227 factor(year)2008 0.549957 0.221705 2.4806 0.0131171 factor(year)2009 0.047225 0.158478 0.2980 0.7657107 factor(year)2010 -0.257901 0.401087 -0.6430 0.5202205 factor(year)2011 NA NA NA NA factor(year)2012 0.173196 0.264502 0.6548 0.5125952 factor(year)2013 -0.078579 0.278052 -0.2826 0.7774785 factor(year)2014 -0.321658 0.284425 -1.1309 0.2580945 factor(year)2015 -0.391496 0.316941 -1.2352 0.2167430 mobility:log_emp -0.050724 0.117488 -0.4317 0.6659303

Rho: -0.0055176, LR test value: 2.2627, p-value: 0.13252 Asymptotic standard error: 0.0036653 z-value: -1.5054, p-value: 0.13223 Wald statistic: 2.2662, p-value: 0.13223

Log likelihood: -182.9153 for lag model ML residual variance (sigma squared): 0.25441, (sigma: 0.50439)

Number of observations: 249 Number of parameters estimated: 29 AIC: 423.83, (AIC for lm: 424.09) LM test for residual autocorrelation test value: 8.0734, p-value: 0.004492

```
coef_emp2 <- coef(duty.emp)[length(coef(duty.emp))]
se_emp2 <- sqrt(diag(vcov(duty.emp)))[length(coef(duty.emp))]

############
# Interactions with tax payments
dec.tax <- lagsarlm(decision ~ mobility*log_tax + log(revenue) +
                      log(total_assets) + log(capital +.5) +
                      AD_CTY_NAME + factor(year),
                    data = firm_data2, panel.weight2, method="eigen",  zero.policy=TRUE, tol.solve=1.0e
```

```
## Warning in lagsarlm(decision ~ mobility * log_tax + log(revenue) +
## log(total_assets) + : Aliased variables found: factor(year)2011
```

```
summary(dec.tax)
```

Call:lagsarlm(formula = decision ~ mobility * log_tax + log(revenue) + log(total_assets) + log(capital + 0.5) + AD_CTY_NAME + factor(year), data = firm_data2, listw = panel.weight2, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -0.91188994 -0.00158571 -0.00014837 0.00355933 0.08811006

Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 165 166 167 168 169 170 171 172 177 178 179 180 181 226 227 228 229 230 231 232 241 242 243 244 245 246 247 248 249 250 251 Coefficients: (asymptotic standard errors) (1 not defined because of singularities) Estimate Std. Error z value Pr(>|z|) (Intercept) 1.8013803 1.0905501 1.6518 0.098574 mobility -1.0980543 1.4835680 -0.7401 0.459212 log_tax -0.0759920 0.0929130 -0.8179 0.413424 log(revenue) 0.0121725 0.0135023 0.9015 0.367315 log(total_assets) -0.0084777 0.0146972 -0.5768 0.564058 log(capital + 0.5) -0.0009977 0.0036795 -0.2712 0.786273 AD_CTY_NAMEBrazil 0.0486741 0.0493526 0.9863 0.324010 AD_CTY_NAMECanada 0.0231598 0.0422834 0.5477 0.583878 AD_CTY_NAMEIndia 0.0404119 0.0391803 1.0314 0.302338 AD_CTY_NAMEMexico 0.1223069 0.0768915 1.5906 0.111690 AD_CTY_NAMERussia 0.0534524 0.0331671 1.6116 0.107047 AD_CTY_NAMESouth Africa 0.0253733 0.0473682 0.5357 0.592194 AD_CTY_NAMESouth Korea 0.0480083 0.0478340 1.0036 0.315551 AD_CTY_NAMETaiwan 0.1044013 0.0799425 1.3060 0.191568 AD_CTY_NAMETurkey 0.0833480 0.0287277 2.9013 0.003716 AD_CTY_NAMEUkraine 0.0519458 0.0514953 1.0087 0.313095 AD_CTY_NAMEUSA 0.0290765 0.0400392 0.7262 0.467715 factor(year)2007 -0.0012084 0.0254120 -0.0476 0.962072 factor(year)2008 0.0033247 0.0244306 0.1361 0.891752 factor(year)2009 0.0155679 0.0170793 0.9115 0.362029 factor(year)2010 -0.0393951 0.0479877 -0.8209 0.411679 factor(year)2011 NA NA NA NA factor(year)2012 0.0117386 0.0322807 0.3636 0.716125 factor(year)2013 -0.0494980 0.0337647 -1.4660 0.142656 factor(year)2014 0.0054830 0.0353078 0.1553 0.876590 factor(year)2015 0.0130121 0.0389258 0.3343 0.738168 mobility:log_tax 0.0952382 0.1265956 0.7523 0.451869

Rho: -0.0015637, LR test value: 1.9437, p-value: 0.16326 Asymptotic standard error: 0.0011158 z-value: -1.4014, p-value: 0.1611 Wald statistic: 1.9639, p-value: 0.1611

Log likelihood: 345.0906 for lag model ML residual variance (sigma squared): 0.0036622, (sigma: 0.060516) Number of observations: 249 Number of parameters estimated: 28 AIC: -634.18, (AIC for lm: -634.24) LM test for residual autocorrelation test value: 0.013619, p-value: 0.9071

```
coef_tax1 <- coef(dec.tax)[length(coef(dec.tax))]
se_tax1 <- sqrt(diag(vcov(dec.tax)))[length(coef(dec.tax))]

duty.tax <- lagsarlm(log(wto_final+.5) ~ mobility*log_tax+ log(revenue) +
```

```
                        log(total_assets) + log(capital +.5) +
                        AD_CTY_NAME + factor(year),
                      data = firm_data2, panel.weight2, method="eigen",  zero.policy=TRUE, tol.solve=1.0
```

```
## Warning in lagsarlm(log(wto_final + 0.5) ~ mobility * log_tax + log(revenue) + :
## Aliased variables found: factor(year)2011
```

```
summary(duty.tax)
```

Call:lagsarlm(formula = log(wto_final + 0.5) ~ mobility * log_tax + log(revenue) + log(total_assets) + log(capital + 0.5) + AD_CTY_NAME + factor(year), data = firm_data2, listw = panel.weight2, method = "eigen", zero.policy = TRUE, tol.solve = 1e-11, control = list(fdHess = TRUE))

Residuals: Min 1Q Median 3Q Max -1.77621 -0.23182 -0.03717 0.27158 1.32893

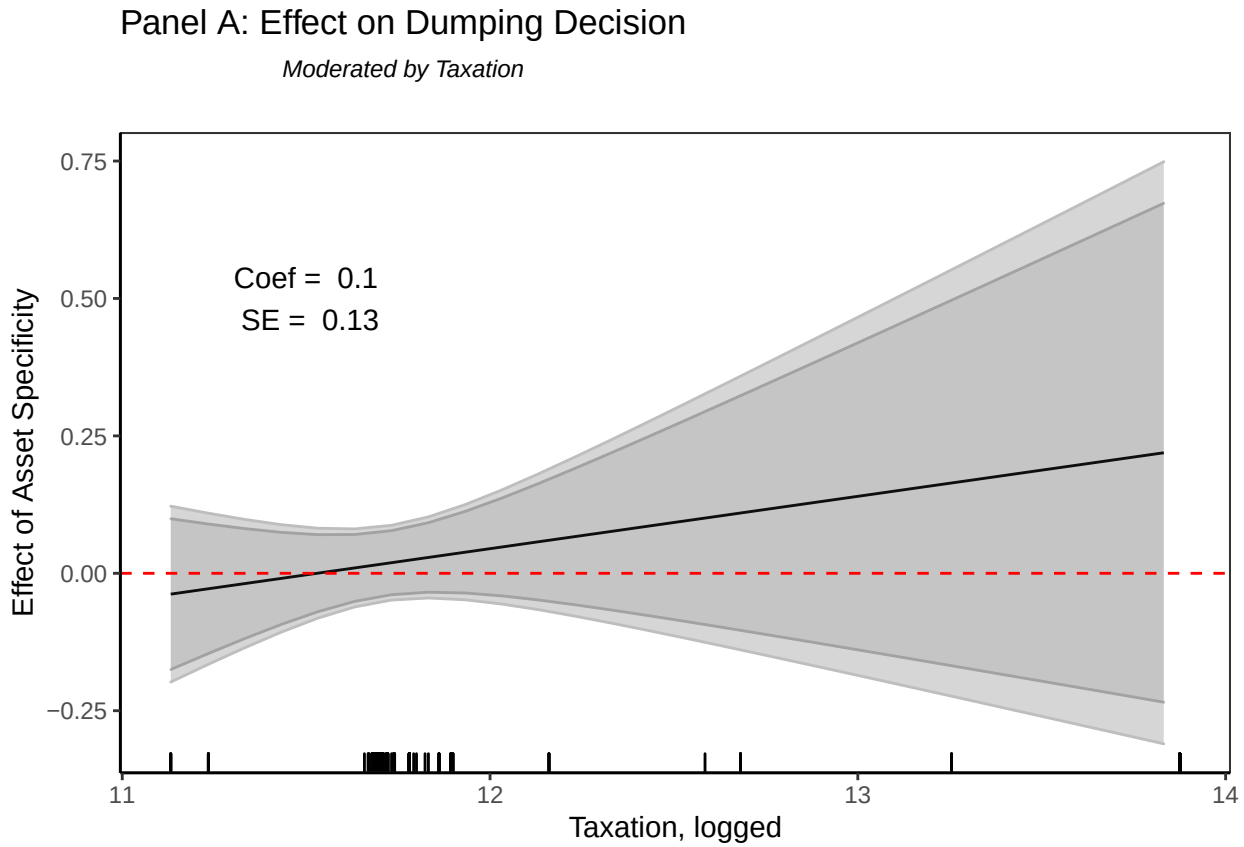
Type: lag Regions with no neighbours included: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 165 166 167 168 169 170 171 172 177 178 179 180 181 226 227 228 229 230 231 232 241 242 243 244 245 246 247 248 249 250 251 Coefficients: (asymptotic standard errors) (1 not defined because of singularities) Estimate Std. Error z value Pr(>|z|) (Intercept) 14.084913 9.119043 1.5446 0.1224526 mobility -17.017018 12.418525 -1.3703 0.1705954 log_tax -0.904784 0.777331 -1.1640 0.2444393 log(revenue) -0.114055 0.113880 -1.0015 0.3165689 log(total_assets) 0.119614 0.123502 0.9685 0.3327842 log(capital + 0.5) -0.069294 0.030536 -2.2693 0.0232513 AD_CTY_NAMEBrazil 1.180126 0.410887 2.8721 0.0040770 AD_CTY_NAMECanada 1.171445 0.351757 3.3303 0.0008676 AD_CTY_NAMEIndia 0.538048 0.325890 1.6510 0.0987365 AD_CTY_NAMEMexico 0.438605 0.639553 0.6858 0.4928392 AD_CTY_NAMERussia 0.319436 0.275622 1.1590 0.2464707 AD_CTY_NAMESouth Africa 0.633203 0.394061 1.6069 0.1080845 AD_CTY_NAMESouth Korea -0.856546 0.397937 -2.1525 0.0313605 AD_CTY_NAMETaiwan 0.473394 0.666116 0.7107 0.4772842 AD_CTY_NAMETurkey 0.709589 0.238158 2.9795 0.0028873 AD_CTY_NAMEUkraine 0.733948 0.428414 1.7132 0.0866803 AD_CTY_NAMEUSA -0.523753 0.333392 -1.5710 0.1161863 factor(year)2007 0.732438 0.211405 3.4646 0.0005310 factor(year)2008 0.624048 0.203583 3.0653 0.0021743 factor(year)2009 0.131332 0.146945 0.8937 0.3714578 factor(year)2010 -0.306818 0.397930 -0.7710 0.4406870 factor(year)2011 NA NA NA NA factor(year)2012 0.119825 0.268585 0.4461 0.6554986 factor(year)2013 -0.119045 0.280084 -0.4250 0.6708135 factor(year)2014 -0.430939 0.292500 -1.4733 0.1406716 factor(year)2015 -0.489308 0.323820 -1.5110 0.1307762 mobility:log_tax 1.449193 1.060094 1.3670 0.1716123

Rho: -0.008152, LR test value: 6.5155, p-value: 0.010694 Asymptotic standard error: 0.0031593 z-value: -2.5803, p-value: 0.0098709 Wald statistic: 6.658, p-value: 0.0098709

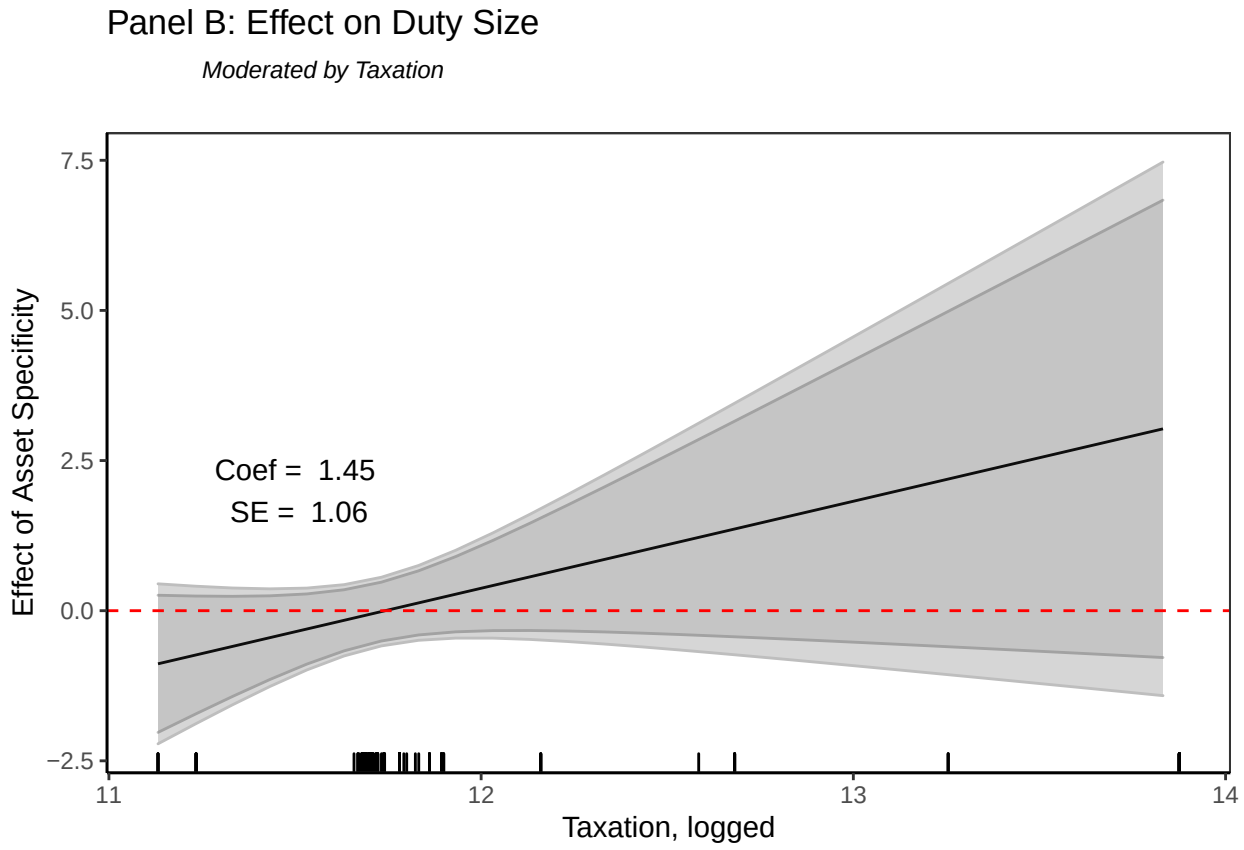
Log likelihood: -182.4654 for lag model ML residual variance (sigma squared): 0.25344, (sigma: 0.50343) Number of observations: 249 Number of parameters estimated: 28 AIC: 420.93, (AIC for lm: 425.45) LM test for residual autocorrelation test value: 8.2623, p-value: 0.0040478

```
coef_tax2 <- coef(duty.tax)[length(coef(duty.tax))]
se_tax2 <- sqrt(diag(vcov(duty.tax)))[length(coef(duty.tax))]

marg_emp_dec <- marginsplotdf(dec.emp, xterm = "mobility", zterm = "log_emp",
                              zseq = seq(min(firm_data2$log_emp),
                                         max(firm_data2$log_emp)))
marg_emp_duty <- marginsplotdf(duty.emp, xterm = "mobility", zterm = "log_emp",
                               zseq = seq(min(firm_data2$log_emp),
                                          max(firm_data2$log_emp)))
marg_tax_dec <- marginsplotdf(dec.tax, xterm = "mobility", zterm = "log_tax",
                              zseq = seq(min(firm_data2$log_tax),
                                         max(firm_data2$log_tax), 0.1))
marg_tax_duty <- marginsplotdf(duty.tax, xterm = "mobility", zterm = "log_tax",
```

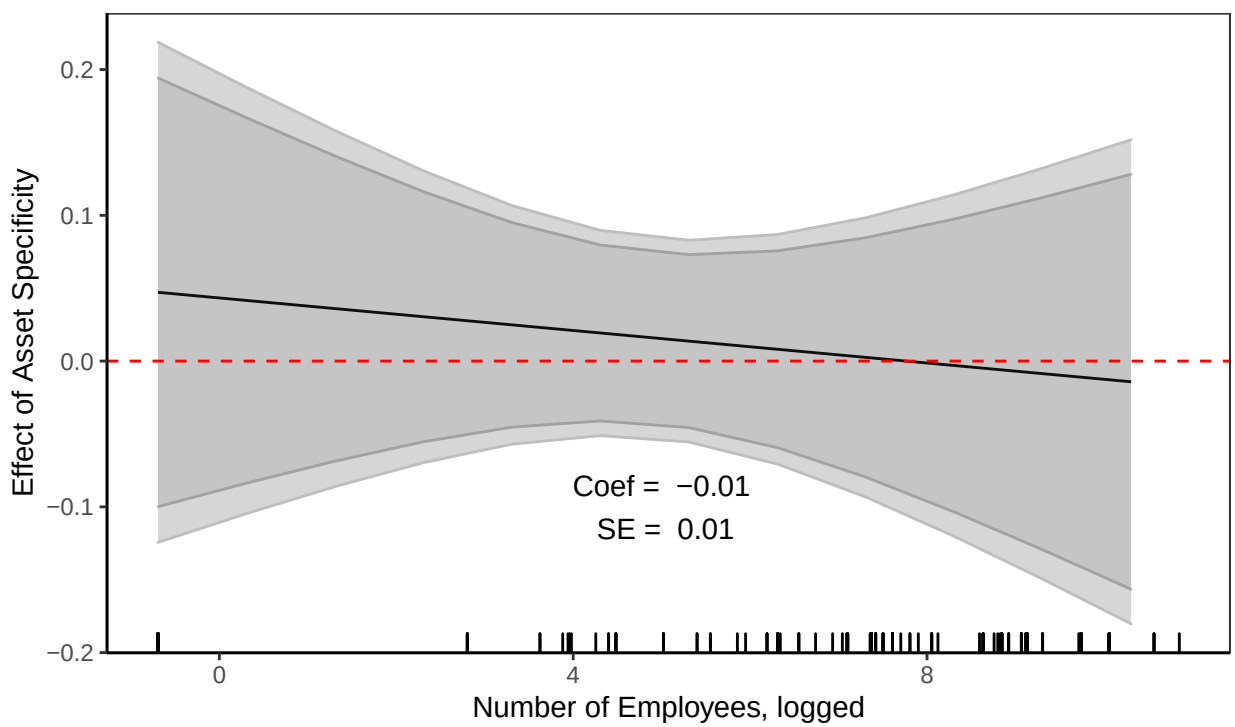
```
                                zseq = seq(min(firm_data2$log_tax),
                                           max(firm_data2$log_tax), 0.1))

############
# plot results

# taxation
tax.dec.plot <- ggplot(marg_tax_dec, aes(x = z, y = dydx)) +
  geom_line() +
  geom_ribbon(aes(ymin = (dydx - se*1.68),
                  ymax = (dydx + se*1.68)),
              alpha = .1, color = "grey") +
  geom_ribbon(aes(ymin = (dydx - se*1.96),
                  ymax = (dydx + se*1.96)),
              alpha = .2, color = "grey") +
  theme_bw() + theme(panel.grid.major = element_blank(),
                     panel.grid.minor = element_blank(), axis.line = element_line(colour = "black")) +
  geom_hline(yintercept = 0, lty = 2, col = "red") +
  geom_rug(data = firm_data2, aes(x = log_tax), inherit.aes =  F)+
  labs(y = "Effect of Asset Specificity", x = "Taxation, logged")  +
  ggtitle(expression(atop("Panel A: Effect on Dumping Decision",
                          atop(italic("Moderated by Taxation"), "")))) +
  annotate(geom="text", x = 11.5, y = 0.5,
           label = paste(paste("Coef = ", round(coef_tax1,digits =2)),
                         paste(" SE = ", round(se_tax1,digits =2)),
                         sep ="\n"))

tax.dec.plot
```



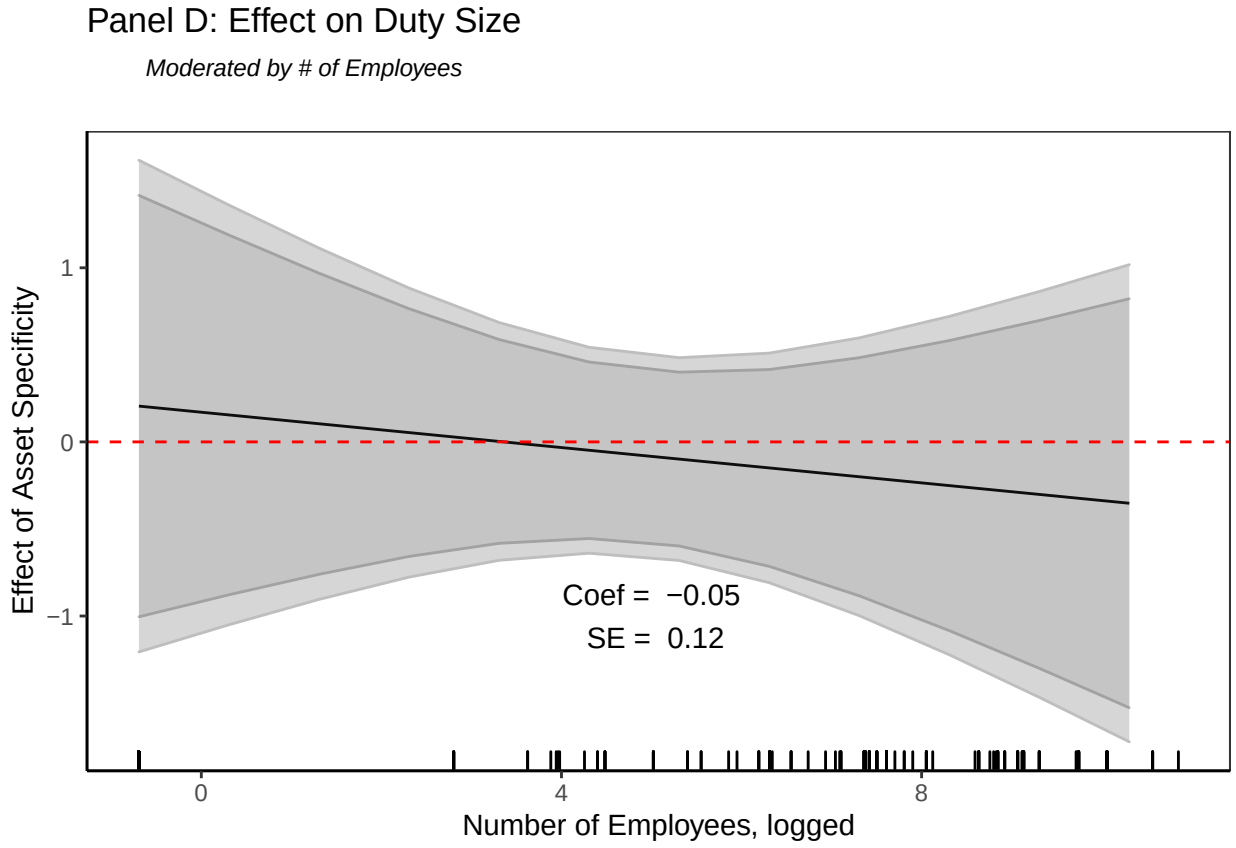

```
tax.duty.plot <- ggplot(marg_tax_duty, aes(x = z, y = dydx)) +
  geom_line() +
  geom_ribbon(aes(ymin = (dydx - se*1.68),
                  ymax = (dydx + se*1.68)),
              alpha = .1, color = "grey") +
  geom_ribbon(aes(ymin = (dydx - se*1.96),
                  ymax = (dydx + se*1.96)),
              alpha = .2, color = "grey") +
  theme_bw() + theme(panel.grid.major = element_blank(),
                     panel.grid.minor = element_blank(), axis.line = element_line(colour = "black")) +
  geom_hline(yintercept = 0, lty = 2, col = "red") +
  geom_rug(data = firm_data2, aes(x = log_tax), inherit.aes =  F)+
  labs(y = "Effect of Asset Specificity", x = "Taxation, logged")+
  ggtitle(expression(atop("Panel B: Effect on Duty Size",
                          atop(italic("Moderated by Taxation"), "")))) +
  annotate(geom="text", x = 11.5, y = 2,
           label = paste(paste("Coef = ", round(coef_tax2,digits =2)),
                         paste(" SE = ", round(se_tax2,digits =2)),
                         sep ="\n"))
tax.duty.plot
```



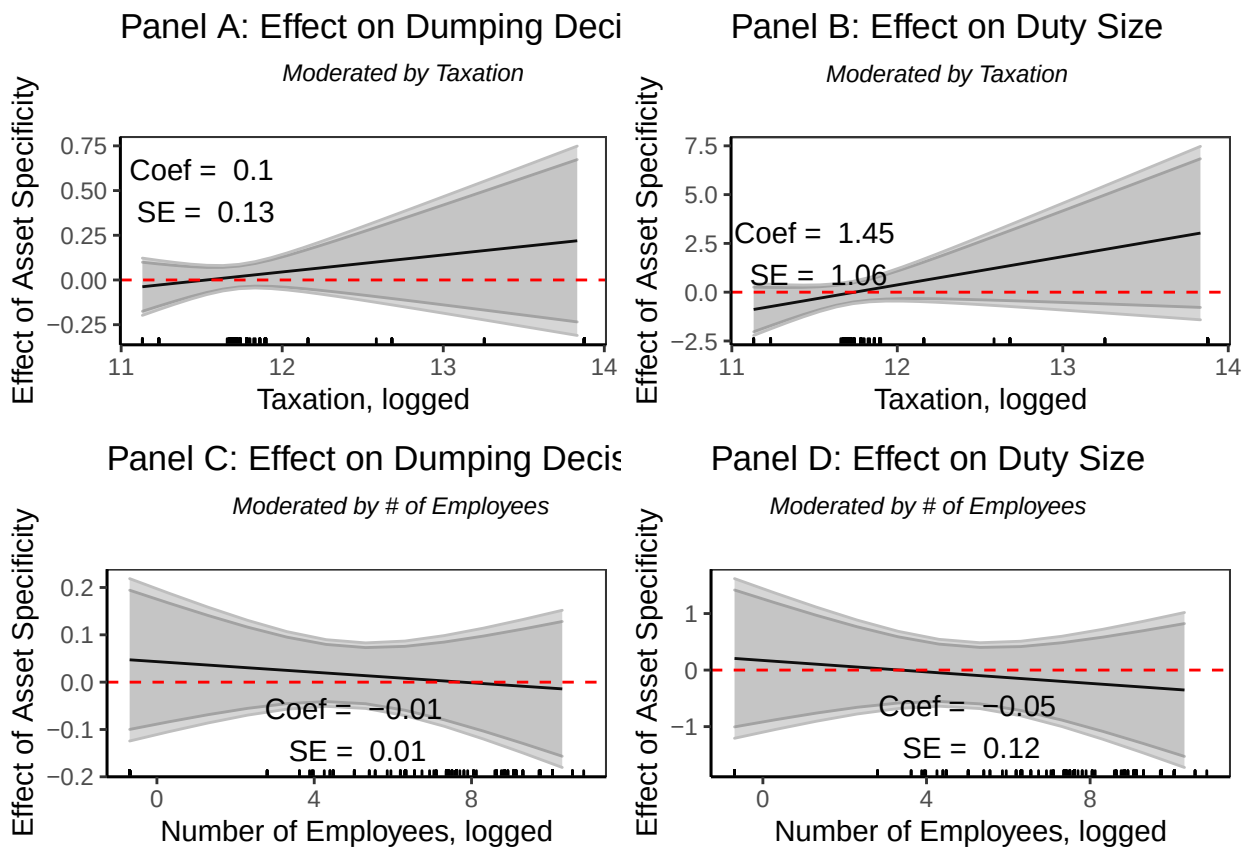

```
# employees
emp.dec.plot <- ggplot(marg_emp_dec, aes(x = z, y = dydx)) +
  geom_line() +
  geom_ribbon(aes(ymin = (dydx - se*1.68),
                  ymax = (dydx + se*1.68)),
              alpha = .1, color = "grey") +
  geom_ribbon(aes(ymin = (dydx - se*1.96),
                  ymax = (dydx + se*1.96)),
              alpha = .2, color = "grey") +
  theme_bw() + theme(panel.grid.major = element_blank(),
                     panel.grid.minor = element_blank(), axis.line = element_line(colour = "black")) +
  geom_hline(yintercept = 0, lty = 2, col = "red") +
  geom_rug(data = firm_data2, aes(x = log_emp), inherit.aes =  F)+
  labs(y = "Effect of Asset Specificity", x = "Number of Employees, logged")+
  ggtitle(expression(atop("Panel C: Effect on Dumping Decision",
                          atop(italic("Moderated by # of Employees"), "")))) +
  annotate(geom="text", x = 5, y = -0.1,
           label = paste(paste("Coef = ", round(coef_emp1,digits =2)),
                         paste(" SE = ", round(se_emp1,digits =2)),
                         sep ="\n"))

emp.dec.plot
```




```
emp.duty.plot <- ggplot(marg_emp_duty, aes(x = z, y = dydx)) +
  geom_line() +
  geom_ribbon(aes(ymin = (dydx - se*1.68),
                  ymax = (dydx + se*1.68)),
              alpha = .1, color = "grey") +
  geom_ribbon(aes(ymin = (dydx - se*1.96),
                  ymax = (dydx + se*1.96)),
              alpha = .2, color = "grey") +
  theme_bw() + theme(panel.grid.major = element_blank(),
                     panel.grid.minor = element_blank(), axis.line = element_line(colour = "black")) +
  geom_hline(yintercept = 0, lty = 2, col = "red") +
  geom_rug(data = firm_data2, aes(x = log_emp), inherit.aes =  F)+
  labs(y = "Effect of Asset Specificity", x = "Number of Employees, logged")+
  ggtitle(expression(atop("Panel D: Effect on Duty Size",
                          atop(italic("Moderated by # of Employees"), "")))) +
  annotate(geom="text", x = 5, y = -1,
           label = paste(paste("Coef = ", round(coef_emp2,digits =2)),
                         paste(" SE = ", round(se_emp2,digits =2)),
                         sep ="\n"))
emp.duty.plot
```




```
alt.exp <- arrangeGrob(tax.dec.plot, tax.duty.plot,
                       emp.dec.plot, emp.duty.plot)

ggdraw(alt.exp)
```




```
# ggsave(plot = alt.exp, filename = "images/AlternativeExplanations.eps", device = cairo_ps,
#        height = 10, width = 10)
```

##Figure F2

```
#######################
# FIGURE F2: Random Slopes by Country


cty.slope <- lmer(log(wto_final+1) ~ mobility + log_rev + log_assets + log_tax + log_cap + AD_CTY_NAME +
```

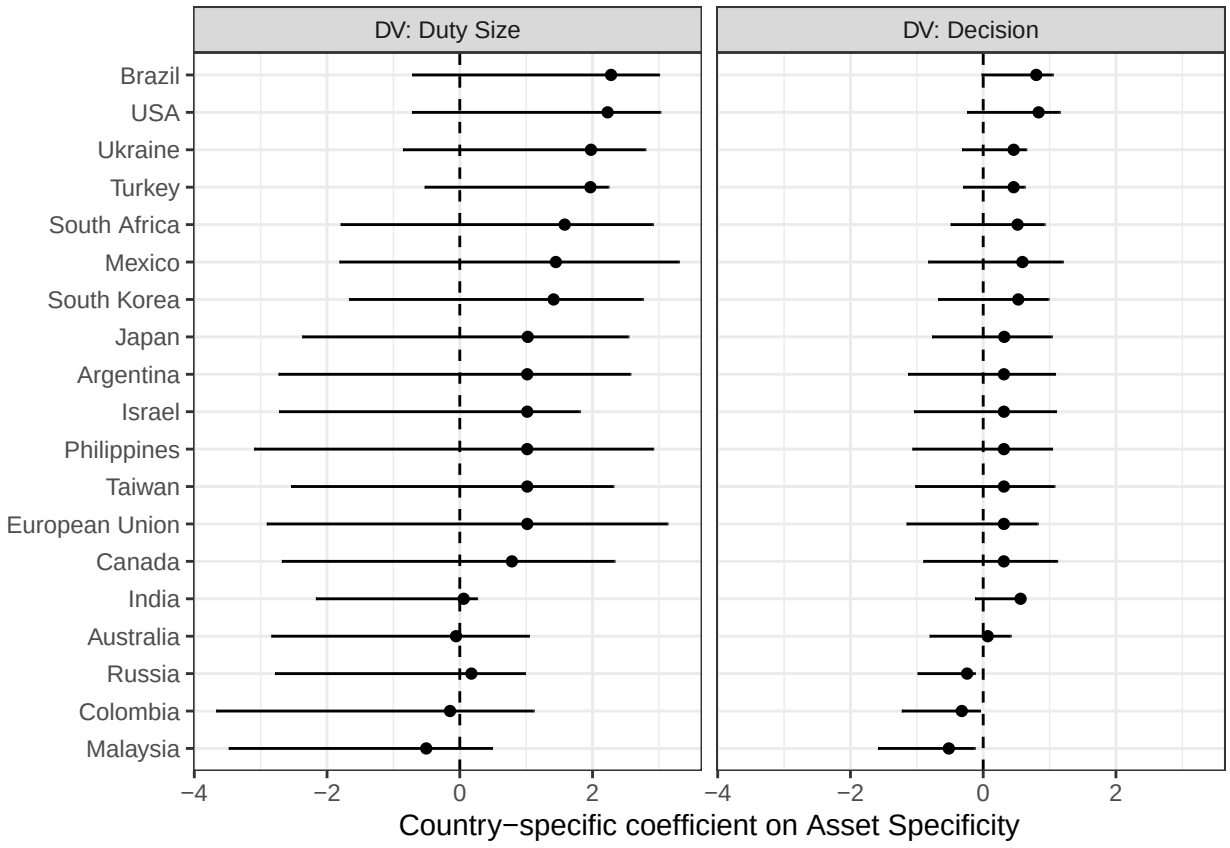
```
## Warning in checkConv(attr(opt, "derivs"), opt$par, ctrl = control$checkConv, :
## unable to evaluate scaled gradient
```

```
## Warning in checkConv(attr(opt, "derivs"), opt$par, ctrl = control$checkConv, :
## Model failed to converge: degenerate Hessian with 2 negative eigenvalues
```

```
#summary(cty.slope)

fx <- coef(cty.slope)$AD_CTY_NAME

cty.fx <- data.frame(cty = rownames(fx), estimate= fx[,2], spec = "DV: Duty Size")

bayes.mod <- sim(cty.slope)
bayes.fx <- bayes.mod@ranef$AD_CTY_NAME
bayes.fx <- bayes.fx[,,2]

CI.func <- function(x){
```

```
  CI <- quantile(x, probs = c(0.025, 0.975))
  return(CI)
}

cty.fx <- data.frame(cty = colnames(bayes.fx), t(apply(bayes.fx, 2, FUN = CI.func)),
                     estimate = fx[,2], spec = "DV: Duty Size")


# binary DV
cty.slope.bin <- lmer(decision ~ mobility + log_rev + log_assets + log_tax + log_cap + AD_CTY_NAME + (1
#summary(cty.slope.bin)
fx <- coef(cty.slope.bin)$AD_CTY_NAME

binary.fx <- data.frame(cty = rownames(fx), estimate = fx[,2], spec = "DV: Decision")

bayes.mod <- sim(cty.slope.bin)
bayes.fx <- bayes.mod@ranef$AD_CTY_NAME
bayes.fx <- bayes.fx[,,2]

bin.fx <- data.frame(cty = colnames(bayes.fx), t(apply(bayes.fx, 2, FUN = CI.func)),
                     estimate = binary.fx[,2], spec = "DV: Decision")

#combining and plotting
cty.fx <- rbind(cty.fx, bin.fx)

segm.dec <- data.frame(x=0.31,
                       spec = factor(c("DV: Decision", "DV: Duty Size"),
                                     levels = c("DV: Decision", "DV: Duty Size")))

cty.plot <- ggplot(cty.fx, aes(x = estimate, y = reorder(cty, estimate))) +
  geom_point() +
  geom_line() +
  theme_bw() +
  geom_errorbarh(aes(xmin = X2.5., xmax = X97.5.), height = 0) +
  facet_wrap(~ spec) +
  labs(x= "Country-specific coefficient on Asset Specificity", y = NULL) +
  geom_vline(xintercept = 0, lty = 2)

cty.plot
```

```
## geom_path: Each group consists of only one observation. Do you need to adjust
## the group aesthetic?
## geom_path: Each group consists of only one observation. Do you need to adjust
## the group aesthetic?
```




```
ggsave(plot = cty.plot,
       filename = "images/country_slopes.eps",
       device = cairo_ps,
       width = 6,
       height = 6)
```

```
## geom_path: Each group consists of only one observation. Do you need to adjust
## the group aesthetic?
## geom_path: Each group consists of only one observation. Do you need to adjust
## the group aesthetic?
```