**# African countries receiving investment from the U.S.**

*### Install packages "animation" in R*

install.packages("animation")

require(animation)

*### Read the csv file*

itax1<-read.csv("/Users/buianh/Documents/Spring 2013/MAT-MAP/USITAX\_AFRICA.csv")

*### Pause 0.5 seconds between each frame of the animation*

oopt = ani.options(interval = 0.5)

*### Count the number of African countries in the data set.*

*### Make new variables region and region2 in order to*

*### include all African countries in the data set and*

*### color African regions yellow*

region<-c(rep("yellow",6))

region2<-c("Africa")

*### Make a new variable yr which includes year of 1993 to 2010*

yr <- c(1993:2010)

*### A for loop to make the bubble chart*

for (i in yr) {

subdat <- function(i){itax1[itax1$yr==i,

c("hoststr","post","pophost","host","Region", "Region2")]}

*### Make a new variable radius so that the bubble size represents the population size*

radius <- sqrt( subdat(i)$pophost/(100\*pi))

*### Make a plot with x- and y-axis defined and properly labeled, and in the plot different regions*

*### are shown in different colors*

plot(subdat(i)$hoststr,subdat(i)$post,xlim=c(10,50),ylim=c(-5000,15000),type = "p",cex = sqrt(radius),pch=16,

col=region,xlab="African host tax rate (%)", ylab="U.S. FDI (millions)" )

*### Label each bubble with the corresponding country name*

text(subdat(i)$hoststr,subdat(i)$post,subdat(i)$host,cex=0.7)

*### Title each frame according to the changing variable i, which is year for our data*

title(i)

*### Stop the animation*

ani.pause()

}

**# Asian countries receiving investment from the U.S.**

*### (If you have not downloaded the package "animation" yet, use the following code:*

*### install.packages("animation")*

*### require(animation)*

*### Read the csv file*

itax2<-read.csv("/Users/buianh/Documents/Spring 2013/MAT-MAP/USITAX\_ASIA.csv")

*### Pause 0.5 seconds between each frame of the animation*

oopt = ani.options(interval = 0.5)

*### Count the number of Asian countries in the data set.*

*### Make new variables region and region2 in order to*

*### include all Asian countries in the data set and*

*### color Asian regions aquamarine*

region<-c(rep("aquamarine",7))

region2<-c("Asia")

*### Make a new variable yr which includes year of 1993 to 2010*

yr <- c(1993:2010)

*### A for loop to make the bubble chart*

for (i in yr) {

subdat <- function(i){itax2[itax2$yr==i,

c("hoststr","post","pophost","host","Region", "Region2")]}

*### Make a new variable radius so that the bubble size represents the population size*

radius <- sqrt( subdat(i)$pophost/(100\*pi))

*### Make a plot with x- and y-axis defined and properly labeled, and in the plot different regions*

*### are shown in different colors*

plot(subdat(i)$hoststr,subdat(i)$post,xlim=c(0,65),ylim=c(-50000,150000),type = "p",cex = sqrt(radius),pch=16,

col=region,xlab=" Asian host tax rate (%)", ylab="U.S. FDI (millions)" )

*### Label each bubble with the corresponding country name*

text(subdat(i)$hoststr,subdat(i)$post,subdat(i)$host,cex=0.7)

*### Title each frame according to the changing variable i, which is year for our data*

title(i)

*### Stop the animation*

ani.pause()

}

**# European countries receiving investment from the U.S.**

*### NOTE: If you have not downloaded the package "animation" yet, use the following code:*

*### install.packages("animation")*

*### require(animation)*

*### Read the csv file*

itax3<-read.csv("/Users/buianh/Documents/Spring 2013/MAT-MAP/USITAX\_EUROPE.csv")

*### Pause 0.5 seconds between each frame of the animation*

oopt = ani.options(interval = 0.5)

*### Count the number of European countries in the data set.*

*### Make new variables region and region2 in order to*

*### include all European countries in the data set and*

*### color European regions bisque*

region<-c(rep("bisque",8))

region2<-c("Europe")

*### Make a new variable yr which includes year of 1993 to 2010*

yr <- c(1993:2010)

*### A for loop to make the bubble chart*

for (i in yr) {

subdat <- function(i){itax3[itax3$yr==i,

c("hoststr","post","pophost","host","Region", "Region2")]}

*### Make a new variable radius so that the bubble size represents the population size*

radius <- sqrt( subdat(i)$pophost/(100\*pi))

*### Make a plot with x- and y-axis defined and properly labeled, and in the plot different regions*

*### are shown in different colors*

plot(subdat(i)$hoststr,subdat(i)$post,xlim=c(10,60),ylim=c(-100000,600000),type = "p",cex = sqrt(radius),pch=16,

col=region,xlab="European host tax rate (%)", ylab="U.S. FDI (millions)" )

*### Label each bubble with the corresponding country name*

text(subdat(i)$hoststr,subdat(i)$post,subdat(i)$host,cex=0.7)

*### Title each frame according to the changing variable i, which is year for our data*

title(i)

*### Stop the animation*

ani.pause()

}

**# All countries receiving investment from U.S. (final)**

*### NOTE: If you have not downloaded the package "animation" yet, use the following code:*

*### install.packages("animation")*

*### require(animation)*

*### Read the csv file*

itax<-read.csv("/Users/buianh/Documents/Spring 2013/MAT-MAP/USITAX.csv")

*### Pause 0.5 seconds between each frame of the animation*

oopt = ani.options(interval = 0.5)

*### Sort the data set according to the region and count the number of countries*

*### in each region.*

*### Make new variables region and region2 in order to*

*### include all countries in the data set and*

*### color each region according to the given colors.*

region<-c(rep("yellow",6),rep("red",6),rep("aquamarine",7),rep("green",1),

rep("bisque",8),rep("plum2",1))

region2<-("Africa","America","Asia","Australia","Europe","Middle East")

*### Make a new variable yr which includes year of 1993 to 2010*

yr <- c(1993:2010)

*### A for loop to make the bubble chart*

for (i in yr) {

subdat <- function(i){itax[itax$yr==i,

c("hoststr","post","pophost","host","Region", "Region2")]}

*### Make a new variable radius so that the bubble size represents the population size*

radius <- sqrt( subdat(i)$pophost/(100\*pi))

*### Make a plot with x- and y-axis defined and properly labeled, and in the plot different regions*

*### are shown in different colors*

plot(subdat(i)$hoststr,subdat(i)$post,xlim=c(0,70),ylim=c(-100000,600000),type = "p",cex = sqrt(radius),pch=16,

col=region,xlab="host tax rate (%)", ylab="U.S. FDI (millions)" )

*### Label each bubble with the corresponding country name*

text(subdat(i)$hoststr,subdat(i)$post,subdat(i)$host,cex=0.7)

*### Make a legend at the bottom right*

legend(60,200000,unique(subdat(i)$Region2),

col=c("yellow","red","aquamarine","green","bisque","plum2"),

cex=0.9,pch=16)

*### Title each frame according to i, which is year for our data*

title(i)

*### Stop the animation*

ani.pause()

}