#### assign year for countries without 2018 data

jefe$year <-ifelse(jefe$pais\_c=="BRA",2019,

 ifelse(jefe$pais\_c=="CHL",2017,

 ifelse(jefe$pais\_c=="ECU",2017,

ifelse(jefe$pais\_c=="JAM",2015,

 ifelse(jefe$pais\_c=="PRY",2017,

ifelse(2018)))))))))

#### pulling from world bank and IMF data in excel workbook and merging

[install.packages](https://rdrr.io/r/utils/install.packages.html)("readxl")

PPP<- [read\_excel](https://readxl.tidyverse.org/reference/read_excel.html" \t "_blank)(xxxxx, sheet = "WB PPP") ####this info is for 2018

LCU<- [read\_excel](https://readxl.tidyverse.org/reference/read_excel.html" \t "_blank)(xxxxx, sheet = "WB LCU") ####this info is for 2018

IMF<- [read\_excel](https://readxl.tidyverse.org/reference/read_excel.html" \t "_blank)(xxxxx, sheet = "IMF xchange") ####this info is for 2018

LCU %>% rename(2018 = LCU2018)

#### world bank data is missing information for LCU (USD conversion), references IMF data for missing information

xchangelcu<-merge(LCU, IMF, by”Country Code”)

xchangelcu$rate<-ifelse([is.na](http://is.na/" \t "_blank)(xchangeratelcu$LCU2018, xchangeratelcu$xchange, xchangeratelcu$LCU2018)

#### pull inflation figures

inflation<- [read\_excel](https://readxl.tidyverse.org/reference/read_excel.html" \t "_blank)(xxxxx, sheet = "WB inflation") ####

PPP %>% rename(2018 = PPP2018)

LCU %>% rename(2018 = LCU2018)

#### deflate for 2019 data, inflate for 2017 data

xchange<- merge(PPP,xchangeratelcu, by="Country Code")

economicstats<-merge(xchange,inflation, by=”Country Code”)

2018 real

jefe$inflation <-ifelse(jefe$year=="2019",1 / (1+ (jefe$2019/100)),

 ifelse(jefe$year=="2017",1+(jefe$2017/100)),

 1)))

#### for normalized income in USD divide by XR

#### for normalized income in PPP divide by world bank PPP