TP9

FRANCIS\_ENSAE

2025-03-28

#Importation des bases de données  
library(haven)  
library(tidyverse)

## ── Attaching core tidyverse packages ──────────────────────── tidyverse 2.0.0 ──  
## ✔ dplyr 1.1.4 ✔ readr 2.1.5  
## ✔ forcats 1.0.0 ✔ stringr 1.5.1  
## ✔ ggplot2 3.5.1 ✔ tibble 3.2.1  
## ✔ lubridate 1.9.4 ✔ tidyr 1.3.1  
## ✔ purrr 1.0.2   
## ── Conflicts ────────────────────────────────────────── tidyverse\_conflicts() ──  
## ✖ dplyr::filter() masks stats::filter()  
## ✖ dplyr::lag() masks stats::lag()  
## ℹ Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors

ehcvm\_welfare\_mli2018 <- read\_sav("C:/Users/Hp/Desktop/tp9/ehcvm\_welfare\_mli2018.sav")  
View(ehcvm\_welfare\_mli2018)  
ehcvm\_welfare\_mli2021 <- read\_sav("C:/Users/Hp/Desktop/tp9/ehcvm\_welfare\_mli2021.sav")  
View(ehcvm\_welfare\_mli2021)

#Recoder les modalités de certaines variables de la base de données ehcvm\_welfare\_mli2018   
#Recoder les modalités de la variable region   
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(region=recode(as.character(region),  
 '1'="Kayes",  
 '2'="Koulikoro",  
 '3'="Sikasso",  
 '4'="Ségou",  
 '5'="Mopti",  
 '6'="Tombouctou",  
 '7'="Gao",  
 '8'="Kidal",  
 '9'="Bamako",  
 '10'="Taoudénit",  
 '11'="Menaka"))

#Recoder les modalites de la variable Milieu de residence  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(milieu=recode(as.character(milieu),  
 '1'="Urbain",  
 '2'="Rural"))

#Recoder les modalites de la variable zae  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(zae=recode(as.character(zae),  
 '1'="Soudan",  
 '2'="Sahel",  
 '3'="Sahara",  
 '4'="Kidal",  
 '5'="Bamako"))

#Recoder les modalites de la variable hgender  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hgender=recode(as.character(hgender),  
 '1'="Masculin",  
 '2'="Feminin"))

#Recoder les modalites de la variable hmstat  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hmstat=recode(as.character(hmstat),  
 '1'="Celibataire",  
 '2'="Marié(e) monogame",  
 '3'="Marié(e) polygame",  
 '4'="Union libre",  
 '5'="Veuf(ve)",  
 '6'="Divorcé",  
 '7'="Séparé(e)"))

#Recoder les modalites de la variable hreligion  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hreligion=recode(as.character(hreligion),  
 '1'="Musulman",  
 '2'="Chretien",  
 '3'="Animiste",  
 '4'="Autre Religion",  
 '5'="Sans Religion"))

#Recoder les modalites de la variable hnation  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hnation=recode(as.character(hnation),  
 '1'="Benin",  
 '2'="Burkina Faso",  
 '3'="Cape-vert",  
 '4'="Guinée",  
 '5'="Mali",  
 '6'="Niger",  
 '7'="Serra-leone",  
 '8'="Togo",  
 '9'="Niger",  
 '10'="Autre CEDEAO",  
 '11'="Autre Afrique",  
 '12'="Autre pays hors Afrique"))

#Recoder les modalites de la variable halfab  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(halfab=recode(as.character(halfab),  
 '0'="Non",  
 '1'="Oui"))

#Recoder les modalites de la variable heduc  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(heduc=recode(as.character(heduc),  
 '1'="Aucun",  
 '2'="Maternelle",  
 '3'="Fondamental 1",  
 '4'="Fondamental 2",  
 '6'="Secondaire General",  
 '7'="Secondaire Technique et Professionnel",  
 '9'="Superieur"))

#Recoder les modalites de la variable hdiploma  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hdiploma=recode(as.character(hdiploma),  
 '0'="Aucun",  
 '1'="CEP",  
 '2'="DEF/BEPC",  
 '3'="CAP",  
 '4'="BT",  
 '5'="BAC",  
 '6'="DEUG, DUT, BTS,IFM",  
 '7'="Licence",  
 '8'="Maitrise",  
 '9'="Master/DEA/DESS",  
 '10'="Doctorat/Phd"))

#Recoder les modalites de la variable hhandig   
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hhandig=recode(as.character(hhandig),  
 '0'="Non",  
 '1'="Oui"))

#Recoder les modalites de la variable hactiv7j  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hactiv7j=recode(as.character(hactiv7j),  
 '1'="Occupe",  
 '2'="Chomeur",  
 '3'="TF cherchant emploi",  
 '4'="TF cherchant pas",  
 '5'="Inactif",  
 '6'="Moins de 5 ans"))

#Recoder les modalites de la variable hactiv12m  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hactiv12m=recode(as.character(hactiv12m),  
 '1'="Occupe",  
 '2'="Travail familial",  
 '3'="Non occupe",  
 '4'="Moins de 5 ans"))

#Recoder les modalites de la variable hbranch  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hbranch=recode(as.character(hbranch),  
 '1'="Agriculture",  
'2'="Elevage/peche",  
'3'="Industrie extractive",  
'4'="Autre industrie",  
'5'="BTP",  
'6'="Commerce",  
'7'="Restaurant/Hotel",  
'8'="Transport et communication",  
'9'="Education/Sante",  
'10'="Services personnels",  
'11'="Autres services"))

#Recoder les modalites de la variable hsectins  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hsectins=recode(as.character(hsectins),  
'1'="Etat/Collectivité",  
'2'="Entreprise publique/ parapublique",  
'3'="Entreprise Privée",  
'4'="Entreprise associative",  
'5'="Ménage comme employeur de personnel domestique",  
'6'="Organisme international /Ambassade"))

#Recoder les modalites de la variable hcsp  
ehcvm\_welfare\_mli2018<-ehcvm\_welfare\_mli2018%>%  
 mutate(hcsp=recode(as.character(hcsp),  
'1'="Cadre superieur",  
'2'="Cadre moyen/agent de maîtrise",  
'3'="Ouvrier ou employé qualifié",  
'4'="Ouvrier ou employé non qualifié",  
'5'="Manœuvre, aide ménagère",  
'6'="Stagiaire ou Apprenti rénuméré",  
'7'="Stagiaire ou Apprenti non rénuméré",  
'8'="Aide familial",  
'9'="Travailleur pour compte propre",  
'10'="Patron  
"))

#Recoder les modalités de certaines variables de la base de données ehcvm\_welfare\_mli2021  
#Recoder les modalités de la variable region   
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(region=recode(as.character(region),  
 '1'="Kayes",  
 '2'="Koulikoro",  
 '3'="Sikasso",  
 '4'="Ségou",  
 '5'="Mopti",  
 '6'="Tombouctou",  
 '7'="Gao",  
 '8'="Kidal",  
 '9'="Bamako",  
 '10'="Taoudénit",  
 '11'="Menaka"))

#Recoder les modalites de la variable Milieu de residence  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(milieu=recode(as.character(milieu),  
 '1'="Urbain",  
 '2'="Rural"))

#Recoder les modalites de la variable zae  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(zae=recode(as.character(zae),  
'1'="Soudan",  
'3'="Sahel",  
'5'="Mopti",  
'7'="Kidal",  
'9'="Bamako"))

#Recoder les modalites de la variable hgender  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hgender=recode(as.character(hgender),  
 '1'="Masculin",  
 '2'="Feminin"))

#Recoder les modalites de la variable hmstat  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hmstat=recode(as.character(hmstat),  
 '1'="Celibataire",  
 '2'="Marié(e) monogame",  
 '3'="Marié(e) polygame",  
 '4'="Union libre",  
 '5'="Veuf(ve)",  
 '6'="Divorcé",  
 '7'="Séparé(e)"))

#Recoder les modalites de la variable hreligion  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hreligion=recode(as.character(hreligion),  
 '1'="Musulman",  
 '2'="Chretien",  
 '3'="Animiste",  
 '4'="Autre Religion",  
 '5'="Sans Religion"))

#Recoder les modalites de la variable hnation  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hnation=recode(as.character(hnation),  
'1'="Bénin",  
'2'="Burkina Faso",  
'3'="Cape-vert",  
'4'="Cote d'ivoire",  
'5'="Gambie",  
'6'="Ghana",  
'7'="Guinee",  
'8'="Guinée Bissau",  
'9'="Liberia",  
'10'="Mali",  
'11'="Niger",  
'12'="Nigeria",  
'13'="Sénégal",  
'14'="Serra-Leonne",  
'15'="Togo",  
'17'="Autre Afrique",  
'18'="Autre pays hors Afrique"))

#Recoder les modalites de la variable halfa  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(halfa=recode(as.character(halfa),  
 '0'="Non",  
 '1'="Oui"))

#Recoder les modalites de la variable halfa2  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(halfa2=recode(as.character(halfa2),  
 '0'="Non",  
 '1'="Oui"))

#Recoder les modalites de la variable heduc  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(heduc=recode(as.character(heduc),  
 '1'="Aucun",  
 '2'="Maternelle",  
 '3'="Fondamental 1",  
 '4'="Fondamental 2",  
 '6'="Secondaire General",  
 '7'="Secondaire Technique et Professionnel",  
 '9'="Superieur"))

#Recoder les modalites de la variable hdiploma  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hdiploma=recode(as.character(hdiploma),  
 '0'="Aucun",  
 '1'="CEP",  
 '2'="DEF/BEPC",  
 '3'="CAP",  
 '4'="BT",  
 '5'="BAC",  
 '6'="DEUG, DUT, BTS,IFM",  
 '7'="Licence",  
 '8'="Maitrise",  
 '9'="Master/DEA/DESS",  
 '10'="Doctorat/Phd"))

#Recoder les modalites de la variable hhandig   
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hhandig=recode(as.character(hhandig),  
 '0'="Non",  
 '1'="Oui"))

#Recoder les modalites de la variable hactiv7j  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hactiv7j=recode(as.character(hactiv7j),  
'1'="Occupe",  
'2'="TF cherchant emploi",  
'3'="TF cherchant pas",  
'4'="Chomeur",  
'5'="Inactif",  
'6'="Moins de 5 ans"))

#Recoder les modalites de la variable hactiv12m  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hactiv12m=recode(as.character(hactiv12m),  
 '1'="Occupe",  
 '2'="Travail familial",  
 '3'="Non occupe",  
 '4'="Moins de 5 ans"))

#Recoder les modalites de la variable hbranch  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hbranch=recode(as.character(hbranch),  
'1'="Agriculture",  
'2'="Elevage/Sylviculture/peche",  
'3'="Industrie extractive",  
'4'="Autre industrie",  
'5'="BTP",  
'6'="Commerce",  
'7'="Restaurant/Hotel",  
'8'="Transport et communication",  
'9'="Education/Sante",  
'10'="Services personnels",  
'11'="Autres services"))

#Recoder les modalites de la variable hsectins  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hsectins=recode(as.character(hsectins),  
'1'="Etat/Collectivités locales",  
'2'="Entreprise publique/ parapublique",  
'3'="Entreprise Privée",  
'4'="Entreprise associative",  
'5'="Ménage comme employeur de personnel domestique",  
'6'="Organisme international /Ambassade"))

#Recoder les modalites de la variable hcsp  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hcsp=recode(as.character(hcsp),  
'1'="Cadre superieur",  
'2'="Cadre moyen/agent de maîtrise",  
'3'="Ouvrier ou employé qualifié",  
'4'="Ouvrier ou employé non qualifié",  
'5'="Manœuvre, aide ménagère",  
'6'="Stagiaire ou Apprenti rénuméré",  
'7'="Stagiaire ou Apprenti non rénuméré",  
'8'="Aide familial",  
'9'="Travailleur pour compte propre",  
'10'="Patron  
"))

#Recoder les modalites de la variable hetnie  
ehcvm\_welfare\_mli2021<-ehcvm\_welfare\_mli2021%>%  
 mutate(hethnie=recode(as.character(hethnie),  
'1'="Bamanan/Bambara",  
'2'="Malinke/Malinké",  
'3'="Peulh",  
'4'="Songhay/Sonrhai/Zarma",  
'5'="Soninké/Sarakolé",  
'6'="Khassonke/Khassonké",  
'7'="Senoufo",  
'8'="Dogon",  
'9'="Souraka/Maure",  
'10'="Autres ethnies",  
'11'="Naturalisé",  
'12'="Dafing",  
'13'="Mamala/Minianka",  
'14'="Haoussa",  
'15'="Samogo",  
'16'="Bozo",  
'17'="Arabe",  
'18'="Mossi",  
'19'="Kakolo",  
'20'="Somono",  
'21'="Tamasheq/Touareg",  
'22'="Tamasheq/Touareg",  
'23'="Autre ethnie non malienne  
  
"))

#Fusionner les deux bases de données   
EHCVM\_merged<-bind\_rows(ehcvm\_welfare\_mli2018,ehcvm\_welfare\_mli2021)

## R Markdown  
  
This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.  
  
When you click the \*\*Knit\*\* button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:  
  
  
``` r  
summary(cars)

## speed dist   
## Min. : 4.0 Min. : 2.00   
## 1st Qu.:12.0 1st Qu.: 26.00   
## Median :15.0 Median : 36.00   
## Mean :15.4 Mean : 42.98   
## 3rd Qu.:19.0 3rd Qu.: 56.00   
## Max. :25.0 Max. :120.00

## Including Plots

You can also embed plots, for example:



Note that the echo = FALSE parameter was added to the code chunk to prevent printing of the R code that generated the plot.