

## Annexes (code Stata)

Cette partie est très brouillonne... Désolé. Le code, avec les mêmes bases de données devrait fonctionner d'une traite (si on ajoute bien « /// » aux commandes plus longue qu'une ligne de word. Je le met en accès libre pour qu'ils puissent en aider d'autres (qui sait ? Peut-être qu'un étudiant y jettera un coup d'œil un jour). Tous les graphiques ont été retravailler via l'option de personnalisation graphique de Stata ; ils comporteront donc des erreurs flagrantes. Les bonnes valeurs (légendes, axes, nom des différentes « catégories, ... ) sont celles présentées dans le mémoire. Le code est donc destiné à être analysé avec le mémoire en parallèle.

```
/*
ssc install asdoc
ssc install fsm
ssc install radar

*/
*****
*****Méthode de Wise*****
*****

clear all
use "E:\Mémoire final\vraie données emp mortalité par age.dta", clear
rename mortality mortalité
replace Emploi=Emploi/100

tway line Emploi mortalité if time==1983 & gender==2, ///
legend(label(1 "1983") label(3 "2015")rows(1) cols(2)) ///
|| scatter Emploi mortalité if time==1983 & gender==2, mlabel(age) ///
|| line Emploi mortalité if time==2015 & gender==2 & age5y>1, ///
|| scatter Emploi mortalité if time==2015 & gender==2 & age5y>1, mlabel(age)

        ipolate Emploi mortalité if time==1983 & gender==2, g(empl)
forvalues i = 1984(1)2015 {
        ipolate Emploi mortalité if time==`i' & gender==2,g(e`i')
        replace empl=e`i' if time==`i' & gender==2
        drop e`i'
}

tway line Emploi mortalité if time==2005 & gender==2, ///
legend(label(1 "1983") label(3 "2015")rows(1) cols(2)) ///
|| scatter Emploi mortalité if time==2005 & gender==2, mlabel(age) ///
|| line Emploi mortalité if time==2012 & gender==2 & age5y>1, ///
|| scatter Emploi mortalité if time==2012 & gender==2 & age5y>1, mlabel(age)

rename Emploi EmploiT
rename empl Emploi
gen age2=.
replace age2=50 if age==50
replace age2=55 if age==55
replace age2=60 if age==60
replace age2=65 if age==65
replace age2=70 if age==70

forvalues i = 1983(1)2015 {
reg Emploi c.mortalité##c.mortalité##c.mortalité##c.mortalité ///
if time==`i' & gender==2
predict emp `i' if time==2015 & gender==2
}

tway line Emploi mortalité if time==2005, ///
legend(label(1 "Taux d'emploi 2005") label(3 "Taux d'emploi 2015")) ///
hol(2 4 col(2)) ///
|| scatter Emploi mortalité if time==2005, mlabel(age2) ///
|| line Emploi mortalité if time==2015 ///
|| scatter Emploi mortalité if time==2015 & gender==2, mlabel(age2)
```

```

tway line Emploi mortalité if time==1983, legend(label(1 "1983")) ///
label(3 "2015") rows(1) cols(2)) ///
|| scatter Emploi mortalité if time==1983, mlabel(age2) ///
xline(.003052 .021319) || line Emploi mortalité if time==2015 & gender==2, ///
|| scatter Emploi mortalité if time==2015 & gender==2, mlabel(age2) ///
|| line emp1983 mortalité if time==2015 & gender==2, mlabel(age2)

gen diff=.
forvalues i = 1983(1)2015 {
gen diff`i' = emp`i'-Emploi if time==2015 & age>49 & age<71
gen suma`i' = sum(diff`i') if gender==2
}
asdoc list age Emploi mortalité emp1983 diff1983 suma1983 if age>49 & age<71 ///
& time==2015 & gender==2

keep suma* age time gender
keep if age==74 & time==2015 & gender==2
drop gender

reshape long suma, i(time) j(timi)
drop time
rename timi time
rename suma WC

tway line WC time, xsc(reverse) xlabel(2015 2010 2000 1990 1983) ///
xtick(2015(1)1983)

*****
*****
****Cutler*****
*****
*****

clear all
use "E:\Mémoire final\db_i_s.dta"
set more off
sum
global binlist il_2 ma* mb_2 mb_3 wb_2 wb_3 f
**Remettre les oui=1 et non=0**
foreach var of varlist $binlist {
    replace `var' = 0 if `var' == 2
    replace `var' = 1 if `var' == 1
    count if missing(`var')
}
** Problème de prostate est non-applicable aux femmes
gen test=0
replace test=1 if ma35_1==-3
gen test2=f-test
sort test2
sum test, detail
replace ma35_1=0 if f==1
tab ma35_1
** Limitations due à une maladies, condition chronic, handicap nécessite une maladie,... (si pas-->-3)
** mb_1==-3 si pas de soucis de base (et donc pas de conséquence due a des soucis inexistant)**
** pour preuve, voire mb01_1 de la base de données large qui contient uniquement 363 -3 pour 12 159 "no"

replace mb_1=0 if mb_1==-3
replace mb_2=0 if mb_2==-3
replace mb_3=0 if mb_3==-3
**Remettre mb_1 de "pas d'effets négatifs" à "grosses limitatio due aux problèmes de santé
gen mb_12=mb_1
replace mb_12=0 if mb_1==4
replace mb_12=1 if mb_1==3
replace mb_12=2 if mb_1==2
replace mb_12=3 if mb_1==1
replace mb_1=mb_12
drop mb_12
tab mb_1
reg empl il_2 mb*
**défactoriser region***
gen reg3=0

```

```

replace reg3=1 if reg=="2_V"
replace reg3=2 if reg=="3_W"
replace reg3=3 if reg=="1_B"
**changer les négatives en missing"
global allvar il_2 ma* mb_1 mb_2 mb_3 wb* sh01 edu reg3 isco1
foreach var of varlist $allvar {
replace `var' = . if `var' < 0
}

**Pour supprimer toutes les observations "missing value"**
foreach var of varlist $allvar {
drop if missing(`var')
}

label variable empl "Employment status"
label variable sh01 "Subjective (bad) health"

gen wave=""
replace wave="wave1" if year==1997
replace wave="wave2" if year==2001
replace wave="wave3" if year==2004
replace wave="wave4" if year==2008
replace wave="wave5" if year==2013
encode wave, generate(wave_n)
drop wave
rename wave_n wave

rename f female

global ohi_aggregates ma06_1 ma08_1 ma10_1 ma11_1 ma14_1 ma15_1 ma16_1 ma17_1 ma18_1 ma19_1 ma21_1 ma22_1 ma2301_1
ma2302_1 ma24_1 ma25_1 ma27_1 ma28_1 ma29_1 ma30_1 ma31_1 ma32_1 ma33_1 ma34_1 ma35_1

forval k = 1/10 {
gen isco`k'=1 if isco1==`k'
replace isco1`k'=0 if isco1!=`k'
}

forval k = 1/4 {
gen edu`k'=1 if edu==`k'
replace edu`k'=0 if edu!=`k'
}

gen regv=1 if reg=="2_V"
replace regv=0 if reg!="2_V"
gen regb=1 if reg=="1_B"
replace regb=0 if reg!="1_B"
gen regw=1 if reg=="3_W"
replace regw=0 if reg!="3_W"

replace reg="Bruxelles" if reg=="1_B"
replace reg="Brabant Flamand" if reg=="2_V"
replace reg="Brabant Wallon" if reg=="3_W"
encode reg, generate(reg3_n)
drop reg reg3
rename reg3_n reg

**on remet des labels plus court pour lisibilité**
label variable ma06_1 "High blood pressure"
label variable ma08_1 "Stroke (or consequences)"
label variable ma10_1 "Rheumatoid arthritis"
label variable ma11_1 "Osteoarthritis "
label variable ma14_1 "Diabetes"
label variable ma15_1 "Allergy"
label variable ma16_1 "Stomach ulcer"
label variable ma17_1 "Cirrhosis of the liver"
label variable ma18_1 "Cancer"
label variable ma19_1 "Severe headache"
label variable ma21_1 "Serious gloom or depression "
label variable ma22_1 "Thyroid problems"
label variable ma2301_1 "Glaucoma"
label variable ma2302_1 "Cataract"

```

```

label variable ma24_1 "Parkinson's disease"
label variable ma25_1 "Epilepsy"
label variable ma27_1 "Osteoporosis"
label variable ma28_1 "Broken hip"
label variable ma29_1 "Disorder of bowel"
label variable ma30_1 "Stones in the kidney"
label variable ma31_1 "Serious disease of the kidney"
label variable ma32_1 "Chronic cystitis"
label variable ma33_1 "Serious or chronic skin disease"
label variable ma34_1 "Inflammation of the gallbladder"
label variable ma35_1 "Prostate problems"
label variable mb_1 "Severity of limitations"
label variable mb_2 "Limitations"
label variable mb_3 "Severe limitations"
label variable wb_1 "Mean GHQ-12 score"
label variable wb_2 "Psychological distress"
label variable wb_3 "Probable mental disorder"
*****
*****
**Subjective Health**
*****
*****

gen age5y2="50_54" if age5y==11
replace age5y2="55_59" if age5y==12
replace age5y2="60_64" if age5y==13
replace age5y2="64_69" if age5y==14
replace age5y2="70_74" if age5y==15
replace age5y2="75_79" if age5y==16
replace age5y2="80_84" if age5y==17
replace age5y2="85+" if age5y==18
encode age5y2, generate (age5y3)

gen sh01b = "Missing"
replace sh01b="eVery Poor Health" if sh01==5
replace sh01b="dPoor Health" if sh01==4
replace sh01b="cFair Health" if sh01==3
replace sh01b="bGood Health" if sh01==2
replace sh01b="aVery Good Health" if sh01==1
encode sh01b, generate(sh01bb)

global shi_aggregates i.sh01bb il_2 mb_1 mb_2 mb_3

reg empl i.sh01bb if age5y==11
logistic empl ib1.sh01bb if age5y==11

*****
***** Avec sah *****
*****

gen sah=1 if sh01>2
replace sah=0 if sh01<3
bysort age : egen meansah = mean(sah)
twoway line meansah age, xtitle("âge") ytitle("% de gens en santé moyenne ou inférieure")

asdoc reg empl sah if age5y==11, r
predict emppsah
bysort age : egen meanenppsah = mean(emppsah)
line meanenppsah meansah age, legend(label(1 "Taux d'emploi moyen prédit") label(2 "% de personnes en mauvaise santé") rows(2))
xline(95 101)
*montre les taux d'emplois moyen par i.sh01b pour chaque tranche d'age
**(50_54 est donc la plus intéressante)
*on voit que très bien que d'emploi varie fortement par sh01 catégories""
*et dans le sens attendue : very poor(18%)>poor(30%)>fair(55%)>good(70%)>very good(80%)
bysort age5y sh01b : egen meantruc = mean(empl)
twoway bar meantruc age5y3, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_84" 8 "85+") by(sh01bb)

bysort age5y sh01b : egen meantrucc = mean(empl) if age5y==11
twoway bar meantrucc sh01 if age<55 & age>49, xlabel(1 "Très bonne" 2 "Bonne" 3 "Moyenne" 4 "Pauvre" 5 "Très pauvre") ylabel(0(0.1)1)
ytitle("% de personnes par catégorie") xtitle("Catégorie de santé subjective")

```

```

drop meantruc meantrucc
gen n=1
bysort age5y sh01b : egen meantruc = count(n)
bysort age5y : egen meantrucc = count(n)
replace meantruc= meantruc / meantrucc
tway bar meantruc age5y, xlabel(11 "50_54" 12 "55_59" 13 "60_64" 14 "65_69" 15 "70_74" 16 "75_79" 17 "80_84" 18 "85+")
by(sh01bb)
drop meantruc meantrucc

*****Poportion de i.sh01bb par age5y

gen VP=1 if sh01bb==5
replace VP=0 if VP!=1
gen P=1 if sh01bb==4
replace P=0 if P!=1
gen F=1 if sh01bb==3
replace F=0 if F!=1
gen G=1 if sh01bb==2
replace G=0 if G!=1
gen VG=1 if sh01bb==1
replace VG=0 if VG!=1

bysort age : egen VeryGood = mean(VG)
bysort age : egen Good = mean(G)
bysort age : egen Fair = mean(F)
bysort age : egen Poor = mean(P)
bysort age : egen VeryPoor = mean(VP)

replace Poor=Poor+VeryPoor
replace Fair=Fair+VeryFair
replace Good=Good+Fair
replace VeryGood=Good+VeryGood

tway area VeryGood Good Fair Poor VeryPoor age, xtitle(Âge) ytitle(% d'individus) legend(label(1 "Très bonne") label(2 "Bonne") label(3
"Moyenne") label(4 "Pauvre") label(5 "Très pauvre"))
drop Good VeryGood Poor VeryPoor Fair

**Cutler uniquement avec sh01bb**
drop empp
asdoc reg empl ib3.sh01bb if age5y==11, r
predict empp
bysort age : egen PredictedWorkingCapacity = mean(empp)
bysort age5y : egen gt=mean(empp)
bysort age : egen EffectiveWork = mean(empl)
tway line PredictedWorkingCapacity EffectiveWork age if age>49, legend(label(1 "Capacité de Travail prédite") label(2 "Travail
Effectif")) ytitle("Emploi en %") xtitle("Tranche d'âge")
drop empp
***** Avec la santé subjectives et handicapées et limitations***
***
asdoc reg empl ib3.sh01bb il_2 if age5y==11, r
asdoc reg empl ib3.sh01bb il_2 ib2.mb_1 if age5y==11, r
predict empp
bysort age : egen meanemppr = mean(empp)
bysort age5y : egen meanemppr2 = mean(empp)

bysort age5y : egen meanemppro = mean(empp)
bysort age5y : egen EffectiveWor = mean(empl)

tway line gt meanemppro EffectiveWor age5y3, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8
"85+") legend(row(3)) label(1 "Capacité de Travail prédite") label(2 "Travail Effectif") ytitle("Emploi en %") xtitle("Tranche d'âge")

*****
*****
*****Cutler avec données objectives*****
*****
/*drop meansah meanenppsah
foreach var of varlist $ohi_aggregates {
    bysort age5y : egen mean`var' = mean(`var')

```

```

        reg empl `var' if age5y==11
        predict empp `var'
        bysort age5y : egen meanempp `var' = mean(empp `var')
        twoway line meanempp `var' age5y
    }
    twoway line meanemppma* age5y
    twoway line mean* age5y
    twoway line meanma11_1 meanma2301_1 age5y
    drop meanma* meanemppma*
    */
    asdoc reg empl $ohi_aggregates if age5y==11, r label
    bysort age : egen meanma11_1 = mean(ma11_1)
    line meanma11_1 age
    asdoc reg empl ma11_1 if age5y==11, r
    predict emppma11_1
    bysort age : egen meanemppma11_1 = mean(emppma11_1)

    line meanemppma11_1 meanma11_1 age, xtitle("Âge") ytitle("%") legend(label(1 "Emploi prédit") label(2 "Personnes souffrant d'ostéo-
    arthrite"))
    twoway line meanemppma11_1 EffectiveWork age, xtitle("Âge") ytitle("%") legend(label(1 "Personnes souffrant d'ostéo-arthrite") label(2
    "Emploi prédit"))

    drop EffectiveWork

    *****
    **ma11 + ma2301
    ****

    set obs 11982
    replace age5y = 10 in 11979
    replace age5y = 10 in 11980
    replace age5y = 10 in 11981
    replace age5y = 10 in 11982

    replace ma11_1 = 0 in 11979
    replace ma2301_1 = 0 in 11979

    replace ma11_1 = 1 in 11980
    replace ma2301_1 = 0 in 11980

    replace ma11_1 = 0 in 11981
    replace ma2301_1 = 1 in 11981

    replace ma11_1 = 1 in 11982
    replace ma2301_1 = 1 in 11982

    replace age = 1 in 11979
    replace age = 2 in 11980
    replace age = 3 in 11981
    replace age = 4 in 11982

    drop empp
    asdoc reg empl ma11_1 ma2301_1 if age5y==11, r
    predict empp
    bysort age : egen meanempp = mean(empp)
    bysort age : egen meanostéo = mean(ma11_1)
    bysort age : egen meanglaucome = mean(ma2301_1)
    twoway line meanempp meanostéo meanglaucome age if age>49, ylabel(0(0.1)1) ytitle("% d'emploi prédit")

    twoway bar empp age if age<5, ylabel(0(0.1)1) ytitle("% d'emploi prédit") xlabel(1 "Aucune maladie" 2 "Ostéo-arthrite" 3 "Glaucome" 4
    "Les deux ensemble") xtitle("")
    asdoc list age ma11_1 ma2301_1 empp in 1/4
    drop if age<50
    drop meanostéo meanglaucome emppma11_1 meanma11_1 meanempp empp
    ***** Avec l'ensemble des indicateurs de santé objectifs*****
    drop if age<50
    asdoc reg empl $ohi_aggregates if age5y==11, r label
    predict empp
    bysort age5y : egen meanempp = mean(empp)

```

```

bysort age5y : egen meanemmp = mean(empl)
tway line meanemppr2 meanempp meanemmp age5y3, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+") ytitle("% d'emploi") xtitle("Âge") legend(row(3) label(1 "Emploi prédit avec la santé subjective") label(2 "Emploi prédit
avec les indicateurs de santé objectifs")label(3 "Emploi effectif"))

```

**\*\*test prédiction sur variables objectives; + on utilise de variable, plus la capacité de travail diminue?**

```

asdoc reg empl ma06_1 if age5y==11, r replace nest label
predict emp6
bysort age5y : egen meanemp6 = mean(emp6)
asdoc reg empl ma06_1 ma08_1 if age5y==11, r nest label
predict emp8
bysort age5y : egen meanemp8 = mean(emp8)
asdoc reg empl ma06_1 ma08_1 ma10_1 if age5y==11, r nest label
predict emp10
bysort age5y : egen meanemp10 = mean(emp10)
asdoc reg empl ma06_1 ma08_1 ma10_1 ma11_1 if age5y==11, r nest label
predict emp11
bysort age5y : egen meanemp11 = mean(emp11)
asdoc reg empl ma06_1 ma08_1 ma10_1 ma11_1 ma14_1 if age5y==11,r nest label
predict emp14
bysort age5y : egen meanemp14 = mean(emp14)
asdoc reg empl ma06_1 ma08_1 ma10_1 ma11_1 ma14_1 ma15_1 if age5y==11,r nest label
predict emp15
bysort age5y : egen meanemp15 = mean(emp15)
asdoc reg empl ma06_1 ma08_1 ma10_1 ma11_1 ma14_1 ma15_1 ma16_1 if age5y==11,r nest label
predict emp16
bysort age5y : egen meanemp16 = mean(emp16)

```

```

tway line meanemp6 meanemp8 meanemp10 meanemp11 meanemp14 meanemp15 meanemp16 age5y3, xlabel(1 "50_54" 2 "55_59"
3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+") legend(label(1 "Modèle 1") label(2 "Modèle 2") label(3 "Modèle 3") label(4
"Modèle 4") label(5 "Modèle 5") label(6 "Modèle 6") label(7 "Modèle 7")) ytitle("Emploi prédit en %") xtitle("Tranche d'âge")

```

```

asdoc sum empl
***Semble vrai*****

```

```

*****
**Variables objectives contre subjectives + limitations et handicap**
*****
asdoc reg empl ma* wb* if age5y==11
predict empos
bysort age5y : egen meanempos=mean(empos)
line meanemppr2 meanempos meanempp age5y3, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8
"85+") ytitle("Emploi(%)") xtitle("Tranche d'âge")
rename empl em
drop meanemp* emp*
rename em empl

```

```

*****
*****
*****Cutler en instrumentant la santé subjective par les indicateurs de santé objectifs*****
*****
*****

```

```

***Tester l'endogénéité de sah***
***Test d'Haussman***
reg sah $ohi_aggregates if age5y==11
predict res, res
gen res2=res^2
reg empl sah res2 if age5y==11 /**res est significatif--> sah est endogène**/

```

```

****Le bon iv*****
**** ivreg one shot**** mais mauvais car n'utilise pas "ordered" logit??? Who cares?
ivregress 2sls empl (sah=ma34_1) if age5y==11, r
ivregress 2sls empl il_2 mb* (sah=ma*) if age5y==11, r

```

```

asdoc ivregress 2sls empl il_2 mb* (ib3.sh01bb=ma*) if age5y==11, r label
estat endog
estat firststage
predict empiv
bysort age5y : egen meanemmpiv = mean(empiv)
tway line meanemmpiv2 meanemmpiv meanemmp age5y3, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+") ylabel("% d'emploi") xtitle("Âge") legend(row(4) label(1 "Emploi prédit avec la santé subjective") label(2 "Emploi prédit via
la méthode des variables instrumentales"))label(3 "Emploi effectif"))
*****
***instrumenter subj. Hea.**
*****

ologit sh01bb ma*
predict VG1 G1 F1 P1 VP1
ologit sh01bb i.age5y##c.ma*
predict VG2 G2 F2 P2 VP2
/*
ologit sh01bb i.age5y#c.(ma* il_2 mb0 mb1 mb2 mb3) if female==0
predict VG2h G2h F2h P2h VP2h if female==0
ologit sh01bb i.age5y#c.(ma* il_2 mb0 mb1 mb2 mb3) if female==1
predict VG2f G2f F2f P2f VP2f if female==1*/

**Puis PCA par genre et regarder s'ils diffèrent**
**Si oui, alors justification pour les séparer**

*****
*****
*****PCA*****
*****
*****

*****
**un seul index**
*****

pca il_2 ma* mb_1 mb_2 mb_3 wb* VP P F G VG
predict PVWinde
kdensity PVWinde
xtile PVWindex = PVWinde, nq(100)
replace PVWindex=100-PVWindex
bysort age5y : egen meanPVWindex=mean(PVWindex)

pca il_2 ma* mb_1 mb_2 mb_3 wb* VP1 P1 F1 G1 VG1
predict PVWinde1
kdensity PVWinde1
xtile PVWindex1 = PVWinde1, nq(100)
replace PVWindex1=100-PVWindex1
bysort age5y : egen meanPVWindex1=mean(PVWindex1)
line meanPVWindex1 meanPVWindex age5y

pca il_2 ma* mb_1 mb_2 mb_3 wb* VP2 P2 F2 G2 VG2
predict PVWinde2
kdensity PVWinde2
xtile PVWindex2 = PVWinde2, nq(100)
replace PVWindex2=100-PVWindex2
bysort age5y : egen meanPVWindex2=mean(PVWindex2)

**Moyenne par age des 4 PVW Indexes
line meanPVWindex meanPVWindex1 meanPVWindex2 age5y3, ///
xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+") ///
legend(label(1 "PVW index") label(2 "PVW index - IV") label(3 "PVW index - IVa")) rows(3)
*****
**Lequels fit le mieux la santé pour la capacité de travail?
*****

reg empl i.sh01bb il_2 ma* mb_1 mb_2 mb_3 wb* female if age5y==11
predict ver

```

```

bysort age5y female : egen meanver=mean(ver)

asdoc reg empl PVWindex female if age5y==11, replace nest dec(4)
predict ok
bysort age5y female : egen meanok=mean(ok)

asdoc reg empl PVWindex1 female if age5y==11, nest dec(4)
predict ok1
bysort age5y female : egen meanok1=mean(ok1)
twoway line meanver meanok meanok1 age5y3, by(female) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+") ylabel(1 "% d'emploi") xtitle("Âge") legend(row(4) label(1 "Emploi prédit avec la santé subjective") label(2 "Emploi prédit via
la méthode des variables instrumentales") label(3 "Emploi effectif"))

asdoc reg empl PVWindex2 female if age5y==11, nest dec(4)
predict ok2
bysort age5y female : egen meanok2=mean(ok2)

*****
**Vérif; différents pca= all var?***
*****
twoway line meanver meanok meanok1 meanok2 age5y3, by(female) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6
"75_79" 7 "80_85" 8 "85+") ylabel(1 "% d'emploi") xtitle("Âge") legend(row(4) label(1 "Avec l'ensemble des indicateurs de santé") label(2
"Avec le PVW index") label(3 "Avec le PVW index instrumenté") label(4 "Avec le PVW index instrumenté (obj.*âgéc)"))
drop ok1 meanok1 ok2 meanok2

*****
***Relation emploi:santé***
**simple reg/scatter empl-->pvw**
*****

**relation empl pvw**
gen PVWindexi=PVWindex2^2
gen PVWindexi3=PVWindex2^3
gen PVWindexi4=PVWindex2^4
gen PVWindexi5=PVWindex2^5

reg empl PVWindex2 PVWindexi PVWindexi3 PVWindexi4 PVWindexi5 if age5y==11
predict tui
bysort PVWindex2 female: egen tuio = mean(tui) if age5y==11

reg empl PVWindex2 if age5y==11
predict tuil
bysort PVWindex2 : egen tuili = mean(tuil) if age5y==11
twoway scatter tuili tuio PVWindex2, title("Relation emploi/santé") legend(label(1 "Relation linéaire") label(2 "Relation polynomiale (3
degrès)"))

drop tuili tuil tuio tui PVWindexi5 PVWindexi4 PVWindexi3 PVWindexi meanok ok meanver ver meanPVWindex2 PVWindex2
meanPVWindex1 PVWindex1 PVWindex1 meanPVWindex PVWindex PVWindex VP1 P1 F1 G1 VG1 meanemmpiv empiv res2 res meanemmp
meanempp EffectiveWor meanemppro meanemppr2 meanemppr PredictedWorkingCapacity
rename PVWindex2 PVWindex3
*****
*****Variables de Controles*****
*****

*****
**Homme/Femme**
*****

**emploi**
bysort age female : egen meanw=mean(empl)
bysort age5y female : egen meanw5=mean(empl)
twoway bar meanw age if female==0, legend(label(1 "Taux d'emploi masculin") label(2 "Taux d'emploi féminin")) | line meanw age if
female==1
twoway line meanw5 age5y if female==0, xtitle("Catégorie d'âge") ylabel(1 "Taux d'emploi") title("Taux d'emploi par genre") xlabel(11 "50_54"
12 "55_59" 13 "60_64" 14 "65_69" 15 "70_74" 16 "75_79" 17 "80_84" 18 "85+") legend(label(1 "Taux d'emploi masculin") label(2 "Taux
d'emploi féminin")) | line meanw5 age5y if female==1

**Wk une seule reg**

asdoc reg empl PVWindex3 female if age5y==11, r replace nest dec(4)

```

```

predict gemp3
bysort age5y female : egen meangemp3=mean(gemp3)

**wk 2 reg séparé**
asdoc reg empl PVWindex3 if age5y==11 & female==0, r nest dec(4)
predict gemp3
bysort age5y female : egen meangemp3=mean(gemp3) if female==0
bysort age5y female : egen meangemp3=mean(gemp3) if female==1
asdoc reg empl PVWindex3 if age5y==11 & female==1,r nest dec(4)
predict gemp3
bysort age5y female : egen meangemp3 = mean(gemp3) if female==1
twoway line meangemp3 meangemp3 age5y if female==0, xlabel(11 "50_54" 12 "55_59" 13 "60_64" 14 "65_69" 15 "70_74" 16 "75_79" 17
"80_84" 18 "85+") title("Capacité de travail et genre") legend(label(1 "")) || line meangemp3 meangemp3 age5y if female==1

drop meangemp3 gemp3 meangemp3 gemp3 meanw5 meanw

*****
***Education***
*****

gen un=1
bysort age5y female edu : egen meanwoed = mean(empl)
bysort age5y female edu : egen numag5fed = sum(un)

gen empedh=meanwoed if female==0
gen empedf=meanwoed if female==1

drop edu2 edu3
gen edu2="Au plus primaire" if edu==1
replace edu2="Bas secondaire" if edu==2
replace edu2="Haut secondaire" if edu==3
replace edu2="supérieur" if edu==4
encode edu2, g(edu3)

graph bar empedh empedf if age5y==11, ylabel(0(0.2)1) over(edu3) legend(label(1 "Hommes ")label(2 "Femmes")) title("% d'individus en
emploi ") subtitle("par genre et éducation")

*****Poportion de i.sh01bb par age5y

*****
**Education Heterogeneity among age**
*****

bysort age : egen meanedut = mean(edu)
graph bar meanedut age
graph bar meanedut, over(age)

gen Primary=1 if edu==1
replace Primary=0 if Primary!=1
gen Lowsecon=1 if edu==2
replace Lowsecon=0 if Lowsecon!=1
gen Upsecon=1 if edu==3
replace Upsecon=0 if Upsecon!=1
gen Higher=1 if edu==4
replace Higher=0 if Higher!=1

bysort age : egen AtMostPimary = mean (Primary)
bysort age : egen Lowesecondary = mean (Lowsecon)
bysort age : egen Upsecondary = mean (Upsecon)
bysort age : egen High = mean (Higher)

replace Lowesecondary=Lowesecondary+AtMostPimary
replace Upsecondary=Upsecondary+Lowesecondary
replace High=High+Upsecondary

twoway area High Upsecondary Lowesecondary AtMostPimary age, xtitle(Age of the individual) ytitle(Mean of each Education Category)
drop High Upsecondary Lowesecondary AtMostPimary Higher Upsecon Lowsecon Primary meanedut

```

```

*****
*****
**Régression par niveau d'éducation**
*****
*****

*****
**régression commune**
*****

asdoc reg empl PVWindex3 i.edu if age5y==11 & female==0, r nest replace dec(4)
predict r1
asdoc reg empl PVWindex3 i.edu if age5y==11 & female==1, r nest dec(4)
predict r2
bysort age5y female edu : egen meanr1 = mean(r1)
bysort age5y female edu : egen meanr2 = mean(r2)
bysort age5y female edu : egen meanempl = mean(empl)
tway line meanr1 age5y3 if female==0 & edu==1, name(g1) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+", angle(45)) xtitle("âge en années") ytitle("Capacité de travail estimée (%)") legend(label(1 "Primaire")label(2 "B.
secondaire")label(3 "H. secondaire")label(4 "Supérieur")) subtitle("Hommes") || line meanr1 age5y3 if female==0 & edu==2 || line
meanr1 age5y3 if female==0 & edu==3 || line meanr1 age5y3 if female==0 & edu==4
tway line meanr2 age5y3 if female==1 & edu==1, name(g2) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+", angle(45)) xtitle("âge en années") ytitle("Capacité de travail estimée (%)") legend(label(1 "Primaire")label(2 "B.
secondaire")label(3 "H. secondaire")label(4 "Supérieur")) subtitle("Femmes") || line meanr2 age5y3 if female==1 & edu==2 || line
meanr2 age5y3 if female==1 & edu==3 || line meanr2 age5y3 if female==1 & edu==4
tway bar meanr1 age5y3 if female==0 & edu==1
graph combine g1 g2, ycommon title("Capacité de travail estimée")

drop r1 meanr1 r2 meanr2 meanempl
graph drop g1 g2

*****
**régression séparée**
*****

**homme**
asdoc reg empl PVWindex3 if age5y==11 & female==0 & edu==1, r replace nest dec(4)
predict r1 if female==0 & edu==1
asdoc reg empl PVWindex3 if age5y==11 & female==0 & edu==2, r nest dec(4)
predict r2 if female==0 & edu==2
asdoc reg empl PVWindex3 if age5y==11 & female==0 & edu==3, r nest dec(4)
predict r3 if female==0 & edu==3
asdoc reg empl PVWindex3 if age5y==11 & female==0 & edu==4, r nest dec(4)
predict r4 if female==0 & edu==4

bysort age5y female: egen meanr1 = mean(r1) if female==0
bysort age5y female: egen meanr2 = mean(r2) if female==0
bysort age5y female: egen meanr3 = mean(r3) if female==0
bysort age5y female: egen meanr4 = mean(r4) if female==0

tway line meanr* age5y3,xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(v1)
xtitle("Tranches d'âge") legend(label(1 "Primaire")label(2 "bâs secondaire")label(3 "haut secondaire")label(4 "haute école"))
subtitle("Hommes")

bysort age5y female PVWindex3: egen meanp1 = mean(r1) if age5y==11 & female==0 & edu==1
bysort age5y female PVWindex3: egen meanp2 = mean(r2) if age5y==11 & female==0 & edu==2
bysort age5y female PVWindex3: egen meanp3 = mean(r3) if age5y==11 & female==0 & edu==3
bysort age5y female PVWindex3: egen meanp4 = mean(r4) if age5y==11 & female==0 & edu==4

tway (lfit meanp1 PVWindex3)(lfit meanp2 PVWindex3) (lfit meanp3 PVWindex3) (lfit meanp4 PVWindex3), legend(label(1 "Au plus
primaire")label(2 "Bâs secondaire")label(3 "Haut secondaire") label(4 "Supérieur")) xtitle("Centile du PVWindex-IV") ytitle("Emploi(%)")
subtitle("Hommes de 50_54 ans") name(j1)
drop meanr* r1 r2 r3 r4 meanp*

**femme**
asdoc reg empl PVWindex3 if age5y==11 & female==1 & edu==1, r replace nest dec(4)
predict r1 if female==1 & edu==1
asdoc reg empl PVWindex3 if age5y==11 & female==1 & edu==2, r nest dec(4)
predict r2 if female==1 & edu==2
asdoc reg empl PVWindex3 if age5y==11 & female==1 & edu==3, r nest dec(4)
predict r3 if female==1 & edu==3

```

```

asdoc reg empl PVWindex3 if age5y==11 & female==1 & edu==4, r nest dec(4)
predict r4 if female==1 & edu==4

bysort age5y female : egen meanr1 = mean(r1) if female==1
bysort age5y female : egen meanr2 = mean(r2) if female==1
bysort age5y female : egen meanr3 = mean(r3) if female==1
bysort age5y female : egen meanr4 = mean(r4) if female==1

twoway line meanr* age5y3, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(v2)
xtitle("Tranches d'âge") legend(label(1 "Primaire")label(2 "bâs secondaire")label(3 "haut secondaire")label(4 "haute école"))
subtitle("Femmes")

bysort age5y female PVWindex3: egen meanp1 = mean(r1) if age5y==11 & female==1 & edu==1
bysort age5y female PVWindex3: egen meanp2 = mean(r2) if age5y==11 & female==1 & edu==2
bysort age5y female PVWindex3: egen meanp3 = mean(r3) if age5y==11 & female==1 & edu==3
bysort age5y female PVWindex3: egen meanp4 = mean(r4) if age5y==11 & female==1 & edu==4
twoway (lfit meanp1 PVWindex3)(lfit meanp2 PVWindex3) (lfit meanp3 PVWindex3) (lfit meanp4 PVWindex3), legend(label(1 "Au plus
primaire")label(2 "Bâs secondaire")label(3 "Haut secondaire") label(4 "Supérieur")) xtitle("Centile du PVWindex-IV") subtitle("Femmes de
50_54 ans") name(j2)
graph combine j1 j2

graph combine v1 v2, ycommon title("Capacité de travail estimée")
graph drop v1 v2 j1 j2
drop meanr* r1 r2 r3 r4 meanp*

bysort age5y female edu : egen meanJ=mean(PVWindex3)
gen meanj1= meanJ if female==1 & edu==1
gen meanj2= meanJ if female==1 & edu==2
gen meanj3= meanJ if female==1 & edu==3
gen meanj4= meanJ if female==1 & edu==4
line meanj1 meanj2 meanj3 meanj4 age5y,xlabel(11 "50_54" 12 "55_59" 13 "60_64" 14 "65_69" 15 "70_74" 16 "75_79" 17 "80_84" 18
"85+")

bysort age5y female edu isco1 : egen sumf=sum(un) if female==1 & age5y==11
graph bar sumf if female==1 & age5y==11, by(edu) over(isco1)

*****
**La même mais en ajoutant controle pour type d'emploi**
*****Très proche, pas intéressant*****
*****

**homme**
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==0 & edu==1, r replace nest dec(4)
predict r1 if female==0 & edu==1
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==0 & edu==2, r nest dec(4)
predict r2 if female==0 & edu==2
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==0 & edu==3, r nest dec(4)
predict r3 if female==0 & edu==3
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==0 & edu==4, r nest dec(4)
predict r4 if female==0 & edu==4

bysort age5y female: egen meanr1 = mean(r1) if female==0
bysort age5y female: egen meanr2 = mean(r2) if female==0
bysort age5y female: egen meanr3 = mean(r3) if female==0
bysort age5y female: egen meanr4 = mean(r4) if female==0

twoway line meanr* age5y3,xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(v1)
xtitle("Tranches d'âge") legend(label(1 "Primaire")label(2 "bâs secondaire")label(3 "haut secondaire")label(4 "haute école"))
subtitle("Hommes")

drop meanr* r1 r2 r3 r4

**femme**
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==1 & edu==1, r replace nest dec(4)
predict r1 if female==1 & edu==1
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==1 & edu==2, r nest dec(4)
predict r2 if female==1 & edu==2
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==1 & edu==3, r nest dec(4)
predict r3 if female==1 & edu==3
asdoc reg empl PVWindex3 i.isco1 if age5y==11 & female==1 & edu==4, r nest dec(4)

```

```

predict r4 if female==1 & edu==4

bysort age5y female : egen meanr1 = mean(r1) if female==1
bysort age5y female : egen meanr2 = mean(r2) if female==1
bysort age5y female : egen meanr3 = mean(r3) if female==1
bysort age5y female : egen meanr4 = mean(r4) if female==1

tway line meanr* age5y3, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(v2)
xtitle("Tranches d'âge") legend(label(1 "Primaire")label(2 "bâs secondaire")label(3 "haut secondaire")label(4 "haute école"))
subtitle("Femmes")

graph combine v1 v2, ycommon title("Capacité de travail estimée")
graph drop v1 v2
drop meanr* r1 r2 r3 r4

*****
*****
***** par type d'emploi**
*****
*****

**juste wc adwc tout en une seule reg**
*****
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==0, r
predict empw1 if female==0
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==1, r
predict empw2 if female==1
bysort age5y isco1 : egen meanemppw1=mean(empw1) if female==0
bysort age5y isco1 : egen meanempp1=mean(empw1) if female==0
bysort age5y isco1 : egen meanemppw2=mean(empw2) if female==1
bysort age5y isco1 : egen meanempp2=mean(empw2) if female==1
**homme**

tway line meanemppw1 meanempp1 age5y3 if isco1!=10, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+", angle(45)) by(isco1) legend(label( 1 "Working Capacity")label(2 "Effective Work"))

**femme**

tway bar meanemppw2 meanempp2 age5y3 if isco1!=10, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+", angle(45)) by(isco1) legend(label( 1 "Working Capacity")label(2 "Effective Work"))

drop empw* meanemppw*
*****
**Juste par type d'emploi sans controle de l'éducation**
*****
asdoc reg empl PVWindex3 if age5y==11 & female==0 & isco1==1, r replace nest dec(4)
predict ima11 if female==0 & isco1==1
bysort age5y female isco1 : egen meanempiscoedu11=mean(ima11) if female==0 & isco1==1

forval k = 2/9 {
    asdoc reg empl PVWindex3 if age5y==11 & female==0 & isco1==`k', r nest dec(4)
    predict ima1`k' if female==0 & isco1==`k'
    bysort age5y female isco1 : egen meanempiscoedu1`k'=mean(ima1`k') if female==0 & isco1==`k'
}

forval k = 2/9 {
    replace meanempiscoedu11=meanempiscoedu1`k' if female==0 & isco1==`k'
}

tway bar meanempiscoedu11 meanempp1 age5y3 if isco1!=10, by(isco1) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6
"75_79" 7 "80_85" 8 "85+", angle(45)) ylabel(0 0.5 1) legend(order(1 "Working Capacity" 2 "Effective Work"))

drop meanempiscoedu* ima*

**femme**
asdoc reg empl PVWindex3 if age5y==11 & female==1 & isco1==1, r replace nest dec(4)
predict ima21 if female==1 & isco1==1
bysort age5y female : egen meanempiscoedu21=mean(ima21) if female==1 & isco1==1
forval k = 2/9 {
    asdoc reg empl PVWindex3 if age5y==11 & female==1 & isco1==`k',r nest dec(4)
    predict ima2`k' if female==1 & isco1==`k'
    bysort age5y female : egen meanempiscoedu2`k'=mean(ima2`k') if female==1 & isco1==`k'
}

```

```

}
    forval k = 2/9 {
        replace meanempiscoedu21=meanempiscoedu2`k' if female==1 & isco1==`k'
    }

twoway bar meanempiscoedu21 meanempp2 age5y3 if isco1!=10, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+", angle(45)) by(isco1) ylabel(0 0.5 1) legend(label(1 "Working Capacity")label(2 "Effective Work"))

drop ima2* meanempiscoedu2*
*****
**reg séparé par homme femme et type d'emploi****
*****Avec controle de l'éducation*****
**homme**

asdoc reg empl PVWindex3 i.edu if age5y==11 & female==0 & isco1==1, r replace nest dec(4)
predict ima11 if female==0 & isco1==1
bysort age5y female isco1 : egen meanempiscoedu11=mean(ima11) if female==0 & isco1==1

    forval k = 2/10 {
        asdoc reg empl PVWindex3 i.edu if age5y==11 & female==0 & isco1==`k', r nest dec(4)
        predict ima1`k' if female==0 & isco1==`k'
        bysort age5y female isco1 : egen meanempiscoedu1`k'=mean(ima1`k') if female==0 & isco1==`k'
    }

    forval k = 2/10 {
        replace meanempiscoedu11=meanempiscoedu1`k' if female==0 & isco1==`k'
    }

twoway line meanempiscoedu11 meanempp1 age5y3 if isco1!=10, by(isco1) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6
"75_79" 7 "80_85" 8 "85+", angle(45)) ylabel(0 0.5 1) legend(order(1 "Working Capacity" 2 "Effective Work"))

drop meanempiscoedu* ima*

bysort age5y female isco1 : egen meanpvv=mean(PVWindex3)
bysort age5y : egen hg=sum(un) if female==0 & isco1==6
bysort age5y female isco1 edu: egen meanedr=sum(un)
replace meanedr=meanedr/hg
twoway line meanedr age5y if female==0 & isco1==6 & edu==3
drop meanedr hg
**femme**
asdoc reg empl PVWindex3 i.edu if age5y==11 & female==1 & isco1==1, r replace nest dec(4)
predict ima21 if female==1 & isco1==1
bysort age5y female : egen meanempiscoedu21=mean(ima21) if female==1 & isco1==1
    forval k = 2/10 {
        asdoc reg empl PVWindex3 i.edu if age5y==11 & female==1 & isco1==`k',r nest dec(4)
        predict ima2`k' if female==1 & isco1==`k'
        bysort age5y female : egen meanempiscoedu2`k'=mean(ima2`k') if female==1 & isco1==`k'
    }

    forval k = 2/10 {
        replace meanempiscoedu21=meanempiscoedu2`k' if female==1 & isco1==`k'
    }

twoway line meanempiscoedu21 meanempp2 age5y3 if isco1!=10, xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+", angle(45)) by(isco1) ylabel(0 0.5 1) legend(label(1 "Working Capacity")label(2 "Effective Work"))

drop ima2* meanempiscoedu2*
*****
**% éducation par catégorie emploi**
*****

gen Primary=1 if edu==1
replace Primary=0 if Primary!=1
gen Lowsecon=1 if edu==2
replace Lowsecon=0 if Lowsecon!=1
gen Upsecon=1 if edu==3
replace Upsecon=0 if Upsecon!=1
gen Higher=1 if edu==4
replace Higher=0 if Higher!=1

```

```

bysort age5y female isco1: egen AtMostPrimary = mean (Primary)
bysort age5y female isco1: egen Lowesecondary = mean (Lowsecon)
bysort age5y female isco1: egen Upsecondary = mean (Upsecon)
bysort age5y female isco1: egen High = mean (Higher)

replace Lowesecondary=Lowesecondary+AtMostPrimary
replace Upsecondary=Upsecondary+Lowesecondary
replace High=High+Upsecondary

twoway bar High Upsecondary Lowesecondary AtMostPrimary isco1 if age5y==11 & female==0 , xlabel(1 "Managers" 2 "Professionels" 3
"Techn./Associates" 4 "Employé de bureau" 5 "Services and sales" 6 "Agri, forêt, pêche" 7 "Artisans et commerçants" 8
"Opérateur/assembleurs" 9 "Métiers élémentaires" 10 "Militaires", angle(45))
twoway bar High Upsecondary Lowesecondary AtMostPrimary isco1 if age5y==11 & female==1 , xlabel(1 "Managers" 2 "Professionels" 3
"Techn./Associates" 4 "Employé de bureau" 5 "Services and sales" 6 "Agri, forêt, pêche" 7 "Artisans et commerçants" 8
"Opérateur/assembleurs" 9 "Métiers élémentaires" 10 "Militaires", angle(45))

drop High Upsecondary Lowesecondary AtMostPrimary Higher Upsecon Lowsecon Primary

*****
*****
***** par région*****
*****
*****
asdoc reg empl PVWindex3 i.edu i.isco1 i.reg if age5y==11 & female==0, label r dec(4)
asdoc reg empl PVWindex3 i.edu i.isco1 i.reg if age5y==11 & female==1, label r dec(4)

**rem 1 flandres 2 wallonies 3 bruxelles*reg séparée*
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==0 & reg==1, r replace nest dec(4)
predict emppr1
bysort age5y reg female : egen meanemppr1=mean(emppr1)
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==0 & reg==2, r nest dec(4)
predict emppr2
bysort age5y reg female : egen meanemppr2=mean(emppr2)
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==0 & reg==3, r nest dec(4)
predict emppr3
bysort age5y reg female : egen meanemppr3=mean(emppr3)
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==1 & reg==1, r nest dec(4)
predict emppr4
bysort age5y reg female : egen meanemppr4=mean(emppr4)
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==1 & reg==2, r nest dec(4)
predict emppr5
bysort age5y reg female : egen meanemppr5=mean(emppr5)
asdoc reg empl PVWindex3 i.edu i.isco1 if age5y==11 & female==1 & reg==3, r nest dec(4)
predict emppr6
bysort age5y reg female : egen meanemppr6=mean(emppr6)

replace meanemppr1 = meanemppr2 if female==0 & reg==2
replace meanemppr1 = meanemppr3 if female==0 & reg==3
replace meanemppr1 = meanemppr4 if female==1 & reg==1
replace meanemppr1 = meanemppr5 if female==1 & reg==2
replace meanemppr1 = meanemppr6 if female==1 & reg==3
bysort age5y female reg : egen meaneffwo=mean(empl)
twoway line meanemppr1 meaneffwo age5y3, by(female reg) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7
"80_85" 8 "85+", angle(45))

*****
**Par régions et par éducation et par genre**
*****

asdoc reg empl PVWindex3 if age5y==11 & female==0 & reg==1 & edu==1, r replace nest dec(4)
predict b11
forval k = 2/4 {
    asdoc reg empl PVWindex3 if age5y==11 & female==0 & reg==1 & edu==`k', r nest dec(4)
    predict b12
    replace b11=b12 if female==0 & reg==1 & edu==`k'
}

```

```

        drop b12
    }
    gen b1=b11 if female==0 & reg==1
    drop b11

    asdoc reg empl PVWindex3 if age5y==11 & female==1 & reg==1 & edu==1, r nest dec(4)
        predict b11
        forval k = 2/4 {
            asdoc reg empl PVWindex3 if age5y==11 & female==1 & reg==1 & edu==`k', r nest dec(4)
            predict b12
            replace b11=b12 if female==1 & reg==1 & edu==`k'
            drop b12
        }
    replace b1=b11 if female==1 & reg==1

    asdoc reg empl PVWindex3 if age5y==11 & female==0 & reg==2 & edu==1, r replace nest dec(4)
        predict b12
        replace b11=b12 if female==0 & reg==2 & edu==1
        drop b12
        forval k = 2/4 {
            asdoc reg empl PVWindex3 if age5y==11 & female==0 & reg==2 & edu==`k', r nest dec(4)
            predict b12
            replace b11=b12 if female==0 & reg==2 & edu==`k'
            drop b12
        }
    replace b1=b11 if female==0 & reg==2

    asdoc reg empl PVWindex3 if age5y==11 & female==1 & reg==2 & edu==1, r nest dec(4)
        predict b12
        replace b11=b12 if female==1 & reg==2 & edu==1
        drop b12
        forval k = 2/4 {
            asdoc reg empl PVWindex3 if age5y==11 & female==1 & reg==2 & edu==`k', r nest dec(4)
            predict b12
            replace b11=b12 if female==1 & reg==2 & edu==`k'
            drop b12
        }
    replace b1=b11 if female==1 & reg==2

    asdoc reg empl PVWindex3 if age5y==11 & female==0 & reg==3 & edu==1, r replace nest dec(4)
        predict b12
        replace b11=b12 if female==0 & reg==3 & edu==1
        drop b12
        forval k = 2/4 {
            asdoc reg empl PVWindex3 if age5y==11 & female==0 & reg==3 & edu==`k', r nest dec(4)
            predict b12
            replace b11=b12 if female==0 & reg==3 & edu==`k'
            drop b12
        }
    replace b1=b11 if female==0 & reg==3

    asdoc reg empl PVWindex3 if age5y==11 & female==1 & reg==3 & edu==1, r nest dec(4)
        predict b12
        replace b11=b12 if female==1 & reg==3 & edu==1
        drop b12
        forval k = 2/4 {
            asdoc reg empl PVWindex3 if age5y==11 & female==1 & reg==3 & edu==`k', r nest dec(4)
            predict b12
            replace b11=b12 if female==1 & reg==3 & edu==`k'
            drop b12
        }
    replace b1=b11 if female==1 & reg==3

    bysort age5y female reg edu : egen meanb1=mean(b1)
    bysort age5y female reg edu : egen meanert=mean(empl)

    twoway line meanb1 meanert age5y3 if reg==1 & female==0, by(edu) ///
    xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" ///

```

```

8 "85+", angle(45)) name(z1)
twoway line meanb1 meanert age5y3 if reg==2 & female==0, by(educ) xlabel(1 "50_54" ///
2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(z2)
twoway line meanb1 meanert age5y3 if reg==3 & female==0, by(educ) xlabel(1 "50_54" ///
2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(z3)

twoway line meanb1 meanert age5y3 if reg==1 & female==1, by(educ) xlabel(1 "50_54" ///
2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(z4)
twoway line meanb1 meanert age5y3 if reg==2 & female==1, by(educ) xlabel(1 "50_54" ///
2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(z5)
twoway line meanb1 meanert age5y3 if reg==3 & female==1, by(educ) xlabel(1 "50_54" ///
2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8 "85+", angle(45)) name(z6)

graph combine z1 z4
graph combine z2 z5
graph combine z3 z6

*****
***Représentations par educ-->régions **
*****
twoway line meanb1 meanert age5y3 if female==0 & edu==1, by(reg) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79"
7 "80_85" 8 "85+", angle(45))
twoway line meanb1 meanert age5y3 if female==0 & edu==2, by(reg) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79"
7 "80_85" 8 "85+", angle(45))
twoway line meanb1 meanert age5y3 if female==0 & edu==3, by(reg) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79"
7 "80_85" 8 "85+", angle(45))
twoway line meanb1 meanert age5y3 if female==0 & edu==4, by(reg) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79"
7 "80_85" 8 "85+", angle(45))
****Pas ouf****
*****
***Moyenne par région sur base des reg par genre/région/edu***
*****

bysort age5y female reg : egen meang1=mean(b1)
bysort age5y female reg : egen meanerta=mean(empl)
twoway line meang1 meanerta age5y3, by(female reg) xlabel(1 "50_54" 2 "55_59" 3 "60_64" 4 "65_69" 5 "70_74" 6 "75_79" 7 "80_85" 8
"85+", angle(45))

drop meaneffwo meanemppr6 emppr6 meanemppr5 emppr5 meanemppr4 emppr4 meanemppr3 ///
emppr3 meanemppr2 emppr2 meanemppr1 emppr1
*****

****fin code *****
*****

```

