'==================================================

'Purpose of this program is to update the Chappel regressions

'for minimum wage review, Sep09

'==================================================

'===========1) set working directory=====================

'set your own working directory here

cd "T:\LabourMarket\_BusinessPerformance\Forecasting\Short term forecasting\Forecast of migration\New folder (43)Q12018"

'============2) create working file=======================

create MWEstimates q 1986q1 2020q1

'============3) set sample periods======================

'for most estimates

sample sq1 1986q1 2018q1

'for youth estimates

sample sq2 1986q1 2018q1

'===========4) read in data from spreadsheet=============

'read(t=xls, s=data) "T:\LabourMarket\_BusinessPerformance\Forecasting\Short term forecasting\Forecast of migration\New folder (43)Q12018" \_

read(t=xls, s=data) AllInputData.xls EMP1617 WAP1617 EMP1819 WAP1819 EMP2024 WAP2024 EMP2529 WAP2529 EMP3039 WAP3039 EMP4049 WAP4049 EMP5059 WAP5059 EMPPAC WAPPAC EMPMAO WAPMAO EMPFEM WAPFEM EMPAll WAPALL NMW1617 NMW1819 NMWADL mwdumyouth mwdum01 mwdum97 mwdumsig1819 mwdumsig1617 PPIO PPII NAHEOT t D1 D2 D3 D4 D5 D6 D7 D8 houract hourusu fte empagri empretail emphos empagri1617 empretail1617 emphos1617 empagri1819 empretail1819 emphos1819 empagri2024 empretail2024 emphos2024 gdp Nosexper Nosexpect unempmal unempfem unemp num quart2 quart3 quart4 empAGRIFEMALE empAGRIMAO empAGRIPAC empRETAILFEMALE empRETAILMAO empRETAILPAC empHOSFEMALE empHOSMAO empHOSPAC GDPAGRI GDPHOS GDPRETAIL QSBO

'===========5) calculate estimation variables=============

smpl sq1

genr ER1617 = EMP1617/WAP1617

genr ER1819 = EMP1819/WAP1819

genr ER2024 = EMP2024/WAP2024

genr ER2529 = EMP2529/WAP2529

genr ER3039 = EMP3039/WAP3039

genr ER4049 = EMP4049/WAP4049

genr ER5059 = EMP5059/WAP5059

genr ERPAC = EMPPAC/WAPPAC

genr ERMAO = EMPMAO/WAPMAO

genr ERFEM = EMPFEM/WAPFEM

genr ERALL = EMPALL/WAPALL

'==================Employment rate by sector==============

genr eragri1617 = empagri1617/empagri

genr eragri1819 =empagri1819/empagri

genr eragri2024 =empagri2024/empagri

genr eragrifemale =empagrifemale/empagri

genr eragrimao=empagrimao/empagri

genr eragripac=empagripac/empagri

genr erretail1617 = empretail1617/empretail

genr erretail1819 =empretail1819/empretail

genr erretail2024 =empretail2024/empretail

genr erretailfemale =empretailfemale/empretail

genr erretailmao=empretailmao/empretail

genr erretailpac=empretailpac/empretail

genr erhos1617 = emphos1617/emphos

genr erhos1819 =emphos1819/emphos

genr erhos2024 =emphos2024/emphos

genr erhosfemale =emphosfemale/emphos

genr erhosmao=emphosmao/emphos

genr erhospac=emphospac/emphos

genr trend=num

'================Minimum Wage rate=====================

genr RMW1617 = NMW1617/PPIO

genr RMW1819 = NMW1819/PPIO

genr RMWADL = NMWADL/PPIO

genr RAHEOT = NAHEOT/PPIO

genr RPI=PPII/PPIO

genr kaitzadl=log( NMWADL/NAHEOT)

genr kaitz1617=@iif(mwdumyouth=0,0,log(nmw1617/NAHEOT))

genr kaitz1819=@iif(mwdumyouth=0,0,log(nmw1819/NAHEOT))

genr lnrmw1819=@iif(mwdumyouth=0,0,log(rmw1819))

genr lnrmw1617=@iif(mwdumyouth=0,0,log(nmw1617))

genr empadl=emp2529+emp3039+emp4049+emp5059

genr wapadl=wap2529+wap3039+wap4049+wap5059

genr lngdp=log(gdp)

genr ftewap=fte/wapall

genr kaitzall=emp1617/empall\*@iif(mwdumyouth=0,0,nmw1617)/naheot+emp1819/empall\*@iif(mwdumyouth=0,0,nmw1819)/naheot+(empall-emp1617-emp1819)/empall\*nmwadl/naheot

genr kaitzlog=emp1617/empall\*kaitz1617+emp1819/empall\*kaitz1819+(empall-emp1617-emp1819)/empall\*kaitzadl

hpf(lambda=1600) lngdp hpgdp @gdpcycle

group todocgroup EMP1617/WAP1617 EMP1819/WAP1819 EMP2024/WAP2024 EMP2529/WAP2529 EMP3039/WAP3039 EMP4049/WAP4049 EMP5059/WAP5059 EMPPAC/WAPPAC EMPMAO/WAPMAO EMPFEM/WAPFEM EMPALL/WAPALL NMW1617/PPIO NMW1819/PPIO NMWADL/PPIO NAHEOT/PPIO PPII/PPIO

freeze(todoctable) todocgroup

todoctable.save(t=csv) todoc

'todoc.save(t=csv) todoc

'============5) estimations==============================

smpl sq2

'============16-17==================

equation eqn1617a.LS LOG(ER1617) C LOG(ERALL) LOG(RMW1617) (LOG(RMW1617)-LOG(RMW1617(-1))) (LOG(RMW1617)-LOG(RMW1617(-2))) (LOG(RMW1617)-LOG(RMW1617(-3))) (LOG(RMW1617)-LOG(RMW1617(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results1617a) eqn1617a.LS

results1617a.save(t=csv) results1617a

equation eqn1617b.LS LOG(ER1617) C LOG(ERALL) LOG(RMW1617) (LOG(RMW1617)-LOG(RMW1617(-1))) (LOG(RMW1617)-LOG(RMW1617(-2))) (LOG(RMW1617)-LOG(RMW1617(-3))) (LOG(RMW1617)-LOG(RMW1617(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results1617b) eqn1617b.LS

results1617b.save(t=csv) results1617b

equation eqn1617c.LS LOG(ER1617) C LOG(ERALL) LOG(RMW1617) (LOG(RMW1617)-LOG(RMW1617(-1))) (LOG(RMW1617)-LOG(RMW1617(-2))) (LOG(RMW1617)-LOG(RMW1617(-3))) (LOG(RMW1617)-LOG(RMW1617(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(results1617c) eqn1617c.LS

results1617c.save(t=csv) results1617c

equation eqn1617d.LS LOG(ER1617) C LOG(ERALL) LOG(RMW1617) (LOG(RMW1617)-LOG(RMW1617(-1))) (LOG(RMW1617)-LOG(RMW1617(-2))) (LOG(RMW1617)-LOG(RMW1617(-3))) (LOG(RMW1617)-LOG(RMW1617(-4))) T D1 D2 D3

freeze(results1617d) eqn1617d.LS

results1617d.save(t=csv) results1617d

equation eqn1617aa.LS LOG(ER1617) C LOG(ERALL) LOG(RMW1617) (LOG(RMW1617)-LOG(RMW1617(-1))) (LOG(RMW1617)-LOG(RMW1617(-2))) (LOG(RMW1617)-LOG(RMW1617(-3))) (LOG(RMW1617)-LOG(RMW1617(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(results1617aa) eqn1617aa.LS

results1617aa.save(t=csv) results1617aa

equation eqn1617aaa.LS LOG(ER1617) C LOG(ERALL) LOG(RMW1617) (LOG(RMW1617)-LOG(RMW1617(-1))) (LOG(RMW1617)-LOG(RMW1617(-2))) (LOG(RMW1617)-LOG(RMW1617(-3))) (LOG(RMW1617)-LOG(RMW1617(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(results1617aaa) eqn1617aaa.LS

results1617aaa.save(t=csv) results1617aaa

'============18-19==================

equation eqn1819a.LS LOG(ER1819) C LOG(ERALL) LOG(RMW1819) (LOG(RMW1819)-LOG(RMW1819(-1))) (LOG(RMW1819)-LOG(RMW1819(-2))) (LOG(RMW1819)-LOG(RMW1819(-3))) (LOG(RMW1819)-LOG(RMW1819(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results1819a) eqn1819a.LS

results1819a.save(t=csv) results1819a

equation eqn1819b.LS LOG(ER1819) C LOG(ERALL) LOG(RMW1819) (LOG(RMW1819)-LOG(RMW1819(-1))) (LOG(RMW1819)-LOG(RMW1819(-2))) (LOG(RMW1819)-LOG(RMW1819(-3))) (LOG(RMW1819)-LOG(RMW1819(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results1819b) eqn1819b.LS

results1819b.save(t=csv) results1819b

equation eqn1819c.LS LOG(ER1819) C LOG(ERALL) LOG(RMW1819) (LOG(RMW1819)-LOG(RMW1819(-1))) (LOG(RMW1819)-LOG(RMW1819(-2))) (LOG(RMW1819)-LOG(RMW1819(-3))) (LOG(RMW1819)-LOG(RMW1819(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(results1819c) eqn1819c.LS

results1819c.save(t=csv) results1819c

equation eqn1819d.LS LOG(ER1819) C LOG(ERALL) LOG(RMW1819) (LOG(RMW1819)-LOG(RMW1819(-1))) (LOG(RMW1819)-LOG(RMW1819(-2))) (LOG(RMW1819)-LOG(RMW1819(-3))) (LOG(RMW1819)-LOG(RMW1819(-4))) T D1 D2 D3

freeze(results1819d) eqn1819d.LS

results1819d.save(t=csv) results1819d

equation eqn1819aa.LS LOG(ER1819) C LOG(ERALL) LOG(RMW1819) (LOG(RMW1819)-LOG(RMW1819(-1))) (LOG(RMW1819)-LOG(RMW1819(-2))) (LOG(RMW1819)-LOG(RMW1819(-3))) (LOG(RMW1819)-LOG(RMW1819(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(results1819aa) eqn1819aa.LS

results1819aa.save(t=csv) results1819aa

equation eqn1819aaa.LS LOG(ER1819) C LOG(ERALL) LOG(RMW1819) (LOG(RMW1819)-LOG(RMW1819(-1))) (LOG(RMW1819)-LOG(RMW1819(-2))) (LOG(RMW1819)-LOG(RMW1819(-3))) (LOG(RMW1819)-LOG(RMW1819(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(results1819aaa) eqn1819aaa.LS

results1819aaa.save(t=csv) results1819aaa

smpl sq1

'============20-24==================

equation eqn2024a.LS LOG(ER2024) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results2024a) eqn2024a.LS

results2024a.save(t=csv) results2024a

equation eqn2024b.LS LOG(ER2024) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results2024b) eqn2024b.LS

results2024b.save(t=csv) results2024b

equation eqn2024c.LS LOG(ER2024) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(results2024c) eqn2024c.LS

results2024c.save(t=csv) results2024c

equation eqn2024d.LS LOG(ER2024) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3

freeze(results2024d) eqn2024d.LS

results2024d.save(t=csv) results2024d

equation eqn2024aa.LS LOG(ER2024) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(results2024aa) eqn2024aa.LS

results2024aa.save(t=csv) results2024aa

equation eqn2024aaa.LS LOG(ER2024) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(results2024aaa) eqn2024aaa.LS

results2024aaa.save(t=csv) results2024aaa

'============25-29==================

equation eqn2529a.LS LOG(ER2529) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results2529a) eqn2529a.LS

results2529a.save(t=csv) results2529a

equation eqn2529b.LS LOG(ER2529) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results2529b) eqn2529b.LS

results2529b.save(t=csv) results2529b

equation eqn2529c.LS LOG(ER2529) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(results2529c) eqn2529c.LS

results2529c.save(t=csv) results2529c

equation eqn2529d.LS LOG(ER2529) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3

freeze(results2529d) eqn2529d.LS

results2529d.save(t=csv) results2529d

equation eqn2529aa.LS LOG(ER2529) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(results2529aa) eqn2529aa.LS

results2529aa.save(t=csv) results2529aa

equation eqn2529aaa.LS LOG(ER2529) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(results2529aaa) eqn2529aaa.LS

results2529aaa.save(t=csv) results2529aaa

'============30-39==================

equation eqn3039a.LS LOG(ER3039) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results3039a) eqn3039a.LS

results3039a.save(t=csv) results3039a

equation eqn3039b.LS LOG(ER3039) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results3039b) eqn3039b.LS

results3039b.save(t=csv) results3039b

equation eqn3039c.LS LOG(ER3039) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(results3039c) eqn3039c.LS

results3039c.save(t=csv) results3039c

equation eqn3039d.LS LOG(ER3039) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3

freeze(results3039d) eqn3039d.LS

results3039d.save(t=csv) results3039d

equation eqn3039aa.LS LOG(ER3039) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(results3039aa) eqn3039aa.LS

results3039aa.save(t=csv) results3039aa

equation eqn3039aaa.LS LOG(ER3039) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(results3039aaa) eqn3039aaa.LS

results3039aaa.save(t=csv) results3039aaa

'============40-49==================

equation eqn4049a.LS LOG(ER4049) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results4049a) eqn4049a.LS

results4049a.save(t=csv) results4049a

equation eqn4049b.LS LOG(ER4049) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results4049b) eqn4049b.LS

results4049b.save(t=csv) results4049b

equation eqn4049c.LS LOG(ER4049) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(results4049c) eqn4049c.LS

results4049c.save(t=csv) results4049c

equation eqn4049d.LS LOG(ER4049) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3

freeze(results4049d) eqn4049d.LS

results4049d.save(t=csv) results4049d

equation eqn4049aa.LS LOG(ER4049) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(results4049aa) eqn4049aa.LS

results4049aa.save(t=csv) results4049aa

equation eqn4049aaa.LS LOG(ER4049) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(results4049aaa) eqn4049aaa.LS

results4049aaa.save(t=csv) results4049aaa

'============50-59==================

equation eqn5059a.LS LOG(ER5059) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results5059a) eqn5059a.LS

results5059a.save(t=csv) results5059a

equation eqn5059b.LS LOG(ER5059) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(results5059b) eqn5059b.LS

results5059b.save(t=csv) results5059b

equation eqn5059c.LS LOG(ER5059) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(results5059c) eqn5059c.LS

results5059c.save(t=csv) results5059c

equation eqn5059d.LS LOG(ER5059) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3

freeze(results5059d) eqn5059d.LS

results5059d.save(t=csv) results5059d

equation eqn5059aa.LS LOG(ER5059) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(results5059aa) eqn5059aa.LS

results5059aa.save(t=csv) results5059aa

equation eqn5059aaa.LS LOG(ER5059) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(results5059aaa) eqn5059aaa.LS

results5059aaa.save(t=csv) results5059aaa

'============PAC==================

equation eqnPACa.LS LOG(ERPAC) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 D8

freeze(resultsPACa) eqnPACa.LS

resultsPACa.save(t=csv) resultsPACa

equation eqnPACb.LS LOG(ERPAC) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 D8

freeze(resultsPACb) eqnPACb.LS

resultsPACb.save(t=csv) resultsPACb

equation eqnPACc.LS LOG(ERPAC) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3 D8

freeze(resultsPACc) eqnPACc.LS

resultsPACc.save(t=csv) resultsPACc

equation eqnPACd.LS LOG(ERPAC) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3 D8

freeze(resultsPACd) eqnPACd.LS

resultsPACd.save(t=csv) resultsPACd

equation eqnPACaa.LS LOG(ERPAC) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) D8 ar(1) sar(4)

freeze(resultsPACaa) eqnPACaa.LS

resultsPACaa.save(t=csv) resultsPACaa

equation eqnPACaaa.LS LOG(ERPAC) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 D8 ar(1)

freeze(resultsPACaaa) eqnPACaaa.LS

resultsPACaaa.save(t=csv) resultsPACaaa

'============MAO==================

equation eqnMAOa.LS LOG(ERMAO) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 D8

freeze(resultsMAOa) eqnMAOa.LS

resultsMAOa.save(t=csv) resultsMAOa

equation eqnMAOb.LS LOG(ERMAO) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 D8

freeze(resultsMAOb) eqnMAOb.LS

resultsMAOb.save(t=csv) resultsMAOb

equation eqnMAOc.LS LOG(ERMAO) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3 D8

freeze(resultsMAOc) eqnMAOc.LS

resultsMAOc.save(t=csv) resultsMAOc

equation eqnMAOd.LS LOG(ERMAO) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3 D8

freeze(resultsMAOd) eqnMAOd.LS

resultsMAOd.save(t=csv) resultsMAOd

equation eqnMAOaa.LS LOG(ERMAO) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) D8 ar(1) sar(4)

freeze(resultsMAOaa) eqnMAOaa.LS

resultsMAOaa.save(t=csv) resultsMAOaa

equation eqnMAOaaa.LS LOG(ERMAO) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 D8 ar(1)

freeze(resultsMAOaaa) eqnMAOaaa.LS

resultsMAOaaa.save(t=csv) resultsMAOaaa

'============FEM==================

equation eqnFEMa.LS LOG(ERFEM) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(resultsFEMa) eqnFEMa.LS

resultsFEMa.save(t=csv) resultsFEMa

equation eqnFEMb.LS LOG(ERFEM) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3

freeze(resultsFEMb) eqnFEMb.LS

resultsFEMb.save(t=csv) resultsFEMb

equation eqnFEMc.LS LOG(ERFEM) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) T D1 D2 D3

freeze(resultsFEMc) eqnFEMc.LS

resultsFEMc.save(t=csv) resultsFEMc

equation eqnFEMd.LS LOG(ERFEM) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) T D1 D2 D3

freeze(resultsFEMd) eqnFEMd.LS

resultsFEMd.save(t=csv) resultsFEMd

equation eqnFEMaa.LS LOG(ERFEM) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) ar(1) sar(4)

freeze(resultsFEMaa) eqnFEMaa.LS

resultsFEMaa.save(t=csv) resultsFEMaa

equation eqnFEMaaa.LS LOG(ERFEM) C LOG(ERALL) LOG(RMWADL) (LOG(RMWADL)-LOG(RMWADL(-1))) (LOG(RMWADL)-LOG(RMWADL(-2))) (LOG(RMWADL)-LOG(RMWADL(-3))) (LOG(RMWADL)-LOG(RMWADL(-4))) LOG(RAHEOT) LOG(RAHEOT(-1)) LOG(RAHEOT(-2)) LOG(RAHEOT(-3)) LOG(RAHEOT(-4)) LOG(RPI) LOG(RPI(-1)) LOG(RPI(-2)) LOG(RPI(-3)) LOG(RPI(-4)) T D1 D2 D3 ar(1)

freeze(resultsFEMaaa) eqnFEMaaa.LS

resultsFEMaaa.save(t=csv) resultsFEMaaa

'======================6) NZIER Results====================

'======================16-17==========================

equation zeqn1617aaa1.ls log(er1617) c log(er1617(-1)) kaitz1617 kaitz1617(-1) kaitz1617(-2) log(empadl/wapadl) log(wap1617/wapall) mwdumyouth mwdum01 mwdumsig1617 t d1 d2 d3

freeze(zresults1617aaa1) zeqn1617aaa1.LS

zresults1617aaa1.save(t=csv) zresults1617aaa1

equation zeqn1617aaa01.ls d(log(er1617),0, 4) c log(er1617(-1)) d(log(er1617(-1)),0,4) kaitz1617 d(kaitz1617,0,4) d(kaitz1617(-1),0, 4) d(kaitz1617(-2),0,4) d(log(empadl/wapadl), 0,4) d(log(wap1617/wapall),0, 4) mwdumyouth mwdum01 mwdumsig1617 t d1 d2 d3

freeze(zresults1617aaa01) zeqn1617aaa01.LS

zresults1617aaa01.save(t=csv) zresults1617aaa01

equation zeqn1617aaa2.ls log(er1617) c log(er1617(-1)) kaitz1617 kaitz1617(-1) kaitz1617(-2) log(unemp/wapall) log(wap1617/wapall) mwdumyouth mwdum01 mwdumsig1617 t d1 d2 d3

freeze(zresults1617aaa2) zeqn1617aaa2.LS

zresults1617aaa2.save(t=csv) zresults1617aaa2

equation zeqn1617aaa3.ls log(er1617) c log(er1617(-1)) kaitz1617 kaitz1617(-1) kaitz1617(-2) gdpcycle log(wap1617/wapall) mwdumyouth mwdum01 mwdumsig1617 t d1 d2 d3

freeze(zresults1617aaa3) zeqn1617aaa3.LS

zresults1617aaa3.save(t=csv) zresults1617aaa3

equation zeqn1617aaa4.ls d(log(er1617),0,4) c d(kaitz1617,0,4) d(kaitz1617(-1),0,4) d(kaitz1617(-2),0,4) d(log(empadl/wapadl),0,4) mwdumyouth mwdum01 mwdumsig1617 d1 d2 d3

freeze(zresults1617aaa4) zeqn1617aaa4.LS

zresults1617aaa4.save(t=csv) zresults1617aaa4

'===========impacts on employment=====================

equation zeqn1617emp.ls log(emp1617) c log(emp1617(-1)) kaitz1617 kaitz1617(-1) kaitz1617(-2) log(empadl/wapadl) log(wap1617/wapall) mwdumyouth mwdum01 mwdumsig1617 t d1 d2 d3

freeze(zresults1617emp) zeqn1617emp.LS

zresults1617emp.save(t=csv) zresults1617emp

'======================================18-19===========

equation zeqn1819aaa1.ls log(er1819) c log(er1819(-1)) kaitz1819 kaitz1819(-1) kaitz1819(-2) log(empadl/wapadl) log(wap1819/wapall) mwdumyouth mwdum01 mwdumsig1819 t d1 d2 d3

freeze(zresults1819aaa1) zeqn1819aaa1.LS

zresults1819aaa1.save(t=csv) zresults1819aaa1

equation zeqn1819aaa01.ls d(log(er1819),0, 4) c log(er1819(-1)) d(log(er1819(-1)),0,4) kaitz1819 d(kaitz1819,0,4) d(kaitz1819(-1),0, 4) d(kaitz1819(-2),0,4) d(log(empadl/wapadl), 0,4) d(log(wap1819/wapall),0, 4) mwdumyouth mwdum01 mwdumsig1819 t d1 d2 d3

freeze(zresults1819aaa01) zeqn1819aaa01.LS

zresults1819aaa01.save(t=csv) zresults1819aaa01

equation zeqn1819aaa2.ls log(er1819) c log(er1819(-1)) kaitz1819 kaitz1819(-1) kaitz1819(-2) log(unemp/wapall) log(wap1819/wapall) mwdumyouth mwdum01 mwdumsig1819 t d1 d2 d3

freeze(zresults1819aaa2) zeqn1819aaa2.LS

zresults1819aaa2.save(t=csv) zresults1819aaa2

equation zeqn1819aaa3.ls log(er1819) c log(er1819(-1)) kaitz1819 kaitz1819(-1) kaitz1819(-2) gdpcycle log(wap1819/wapall) mwdumyouth mwdum01 mwdumsig1819 t d1 d2 d3

freeze(zresults1819aaa3) zeqn1819aaa3.LS

zresults1819aaa3.save(t=csv) zresults1819aaa3

equation zeqn1819aaa4.ls d(log(er1819),0,4) c d(kaitz1819,0,4) d(kaitz1819(-1),0,4) d(kaitz1819(-2),0,4) d(log(empadl/wapadl),0,4) mwdumyouth mwdum01 mwdumsig1819 d1 d2 d3

freeze(zresults1819aaa4) zeqn1819aaa4.LS

zresults1819aaa4.save(t=csv) zresults1819aaa4

'===========impacts on employment=====================

equation zeqn1819emp.ls log(emp1819) c log(emp1819(-1)) kaitz1819 kaitz1819(-1) kaitz1819(-2) log(empadl/wapadl) log(wap1819/wapall) mwdumyouth mwdum01 mwdumsig1819 t d1 d2 d3

freeze(zresults1819emp) zeqn1819emp.LS

zresults1819emp.save(t=csv) zresults1819emp

'========================================20-24=========

equation zeqn2024aaa1.ls log(er2024) c log(er2024(-1)) log(er2024(-2)) log(er2024(-3)) log(er2024(-4)) log(empadl/wapadl) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 log(wap2024/wapall) t d1 d2 d3

freeze(zresults2024aaa1) zeqn2024aaa1.LS

zresults2024aaa1.save(t=csv) zresults2024aaa1

equation zeqn2024aaa2.ls log(er2024) c log(er2024(-1)) log(er2024(-2)) log(er2024(-3)) log(er2024(-4)) log(unemp/wapall) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 log(wap2024/wapall) t d1 d2 d3

freeze(zresults2024aaa2) zeqn2024aaa2.LS

zresults2024aaa2.save(t=csv) zresults2024aaa2

equation zeqn2024aaa3.ls log(er2024) c log(er2024(-1))log(er2024(-2)) log(er2024(-3)) log(er2024(-4)) gdpcycle kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 t d1 d2 d3

freeze(zresults2024aaa3) zeqn2024aaa3.LS

zresults2024aaa3.save(t=csv) zresults2024aaa3

equation zeqn2024aaa4.ls log(er2024) c log(er2024(-1))log(er2024(-2)) log(er2024(-3)) log(er2024(-4)) gdpcycle kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 log(wap2024/wapall) t d1 d2 d3

freeze(zresults2024aaa4) zeqn2024aaa4.LS

zresults2024aaa4.save(t=csv) zresults2024aaa4

'=====================impact on employment===================

equation zeqn2024emp.ls log(emp2024) c log(emp2024(-1)) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) log(empadl/wapadl) log(wap2024/wapall) mwdumyouth mwdum01 t d1 d2 d3

freeze(zresults2024emp) zeqn2024emp.LS

zresults2024emp.save(t=csv) zresults2024emp

'========================25-29=========================

equation zeqn2529aaa1.ls log(er2529) c log(er2529(-1)) log(er2529(-2)) log(er2529(-3)) log(er2529(-4)) log(empadl/wapadl) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 log(wap2529/wapall) t d1 d2 d3

freeze(zresults2529aaa1) zeqn2529aaa1.LS

zresults2529aaa1.save(t=csv) zresults2529aaa1

equation zeqn2529aaa2.ls log(er2529) c log(er2529(-1)) log(er2529(-2)) log(er2529(-3)) log(er2529(-4)) log(unemp/wapall) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 log(wap2529/wapall) t d1 d2 d3

freeze(zresults2529aaa2) zeqn2529aaa2.LS

zresults2529aaa2.save(t=csv) zresults2529aaa2

equation zeqn2529aaa3.ls log(er2529) c log(er2529(-1))log(er2529(-2)) log(er2529(-3)) log(er2529(-4)) gdpcycle kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 t d1 d2 d3

freeze(zresults2529aaa3) zeqn2529aaa3.LS

zresults2529aaa3.save(t=csv) zresults2529aaa3

equation zeqn2529aaa4.ls log(er2529) c log(er2529(-1))log(er2529(-2)) log(er2529(-3)) log(er2529(-4)) gdpcycle kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdumyouth mwdum01 log(wap2529/wapall) t d1 d2 d3

freeze(zresults2529aaa4) zeqn2529aaa4.LS

zresults2529aaa4.save(t=csv) zresults2529aaa4

'=====================impact on employment===================

equation zeqn2529emp.ls log(emp2529) c log(emp2529(-1)) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) log(empadl/wapadl) log(wap2529/wapall) mwdumyouth mwdum01 t d1 d2 d3

freeze(zresults2529emp) zeqn2529emp.LS

zresults2529emp.save(t=csv) zresults2529emp

'=======================Female======================================

equation zeqnfemaaa1.ls log(erfem) c log(erfem(-1)) log(empadl/wapadl) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wapfem/wapall)

freeze(zresultsfemaaa1) zeqnfemaaa1.LS

zresultsfemaaa1.save(t=csv) zresultsfemaaa1

equation zeqnfemaaa2.ls log(erfem) c log(erfem(-1)) log(unemp/wapall) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wapfem/wapall)

freeze(zresultsfemaaa2) zeqnfemaaa2.LS

zresultsfemaaa2.save(t=csv) zresultsfemaaa2

equation zeqnfemaaa3.ls log(erfem) c log(erfem(-1)) gdpcycle kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wapfem/wapall)

freeze(zresultsfemaaa3) zeqnfemaaa3.LS

zresultsfemaaa3.save(t=csv) zresultsfemaaa3

'=========================Maori=====================

equation zeqnmaoaaa1.ls log(ermao) c log(ermao(-1)) log(empadl/wapadl) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wapmao/wapall)

freeze(zresultsmaoaaa1) zeqnmaoaaa1.LS

zresultsmaoaaa1.save(t=csv) zresultsmaoaaa1

equation zeqnmaoaaa2.ls log(ermao) c log(ermao(-1)) log(unemp/wapall) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wapmao/wapall)

freeze(zresultsmaoaaa2) zeqnmaoaaa2.LS

zresultsmaoaaa2.save(t=csv) zresultsmaoaaa2

equation zeqnmaoaaa3.ls log(ermao) c log(ermao(-1)) gdpcycle kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wapmao/wapall)

freeze(zresultsmaoaaa3) zeqnmaoaaa3.LS

zresultsmaoaaa3.save(t=csv) zresultsmaoaaa3

'==========================Pacifics=======================

equation zeqnpacaaa1.ls log(erpac) c log(erpac(-1)) log(empadl/wapadl) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wappac/wapall)

freeze(zresultspacaaa1) zeqnpacaaa1.LS

zresultspacaaa1.save(t=csv) zresultspacaaa1

equation zeqnpacaaa2.ls log(erpac) c log(erpac(-1)) log(unemp/wapall) kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wappac/wapall)

freeze(zresultspacaaa2) zeqnpacaaa2.LS

zresultspacaaa2.save(t=csv) zresultspacaaa2

equation zeqnpacaaa3.ls log(erpac) c log(erpac(-1)) gdpcycle kaitzadl kaitzadl(-1) kaitzadl(-2) kaitzadl(-3) kaitzadl(-4) mwdum01 t d1 d2 d3 log(wappac/wapall)

freeze(zresultspacaaa3) zeqnpacaaa3.LS

zresultspacaaa3.save(t=csv) zresultspacaaa3

equation zhaotestp1.ls log(erpac) c log(erpac(-1)) log(erpac(-4)) log(empadl/wapadl) log(wappac/wapall) log(kaitzall) log(kaitzall(-1)) log(kaitzall(-2)) log(kaitzall(-3)) log(kaitzall(-4)) mwdum01 t d1 d2 d3

freeze(zhaotestresultsp1) zhaotestp1.LS

zhaotestresultsp1.save(t=csv) zhaotestresultsp1

equation zhaotestp2.ls log(erpac) c log(erpac(-1)) log(erpac(-4)) log(unemp/wapall) log(wappac/wapall) log(kaitzall) log(kaitzall(-1)) log(kaitzall(-2)) log(kaitzall(-3)) log(kaitzall(-4)) mwdum01 t d1 d2 d3

freeze(zhaotestresultsp2) zhaotestp2.LS

zhaotestresultsp2.save(t=csv) zhaotestresultsp2

equation zhaotestp3.ls log(erpac) c log(erpac(-1)) log(erpac(-4)) gdpcycle log(wappac/wapall) log(kaitzall) log(kaitzall(-1)) log(kaitzall(-2)) log(kaitzall(-3)) log(kaitzall(-4)) mwdum01 t d1 d2 d3

freeze(zhaotestresultsp3) zhaotestp3.LS

zhaotestresultsp3.save(t=csv) zhaotestresultsp3

'==============================Hours Worked==============

equation zeqnhour1.ls log(houract/empall) c log(houract(-1)/empall(-1)) log(empadl/wapadl) log(kaitzall) log(kaitzall(-1)) mwdum01 t d1 d2 d3

freeze(zresultshour1) zeqnhour1.LS

zresultshour1.save(t=csv) zresultshour1

equation zeqnhour2.ls log(houract/empall) c log(houract(-1)/empall(-1)) log(unemp/wapall) log(kaitzall) log(kaitzall(-1)) mwdum01 t d1 d2 d3

freeze(zresultshour2) zeqnhour2.LS

zresultshour2.save(t=csv) zresultshour2

equation zeqnhour3.ls log(houract/empall) c log(houract(-1)/empall(-1)) gdpcycle log(kaitzall) log(kaitzall(-1)) mwdum01 t d1 d2 d3

freeze(zresultshour3) zeqnhour3.LS

zresultshour3.save(t=csv) zresultshour3

equation zeqnhour4.ls log(houract/wapall) c log(houract(-1)/wapall(-1)) log(empadl/wapadl) log(kaitzall) log(kaitzall(-1)) mwdum01 t d1 d2 d3

freeze(zresultshour4) zeqnhour4.LS

zresultshour4.save(t=csv) zresultshour4

equation zeqnhour5.ls log(houract/wapall) c log(houract(-1)/wapall(-1)) log(unemp/wapall) log(kaitzall) log(kaitzall(-1)) mwdum01 t d1 d2 d3

freeze(zresultshour5) zeqnhour5.LS

zresultshour5.save(t=csv) zresultshour5

equation zeqnhour6.ls log(houract/wapall) c log(houract(-1)/wapall(-1)) gdpcycle log(kaitzall) log(kaitzall(-1)) mwdum01 t d1 d2 d3

freeze(zresultshour6) zeqnhour6.LS

zresultshour6.save(t=csv) zresultshour6

'===============================Full Time Equivilent Employment=====

equation zeqnfte1.ls log(fte) c log(fte(-1)) log(empadl/wapadl) kaitzadl kaitz1617 kaitz1819 mwdumyouth mwdum01 t d1 d2 d3

freeze(zresultsfte1) zeqnfte1.LS

zresultsfte1.save(t=csv) zresultsfte1

equation zeqnfte2.ls log(fte) c log(fte(-1)) log(unemp/wapall) kaitzadl kaitz1617 kaitz1819 mwdumyouth mwdum01 t d1 d2 d3

freeze(zresultsfte2) zeqnfte2.LS

zresultsfte2.save(t=csv) zresultsfte2

equation zeqnfte3.ls log(fte) c log(fte(-1)) gdpcycle kaitzadl mwdum01 d1 d2 d3 mwdumyouth kaitz1617 kaitz1819

freeze(zresultsfte3) zeqnfte3.LS

zresultsfte3.save(t=csv) zresultsfte3

equation zeqnfte4.ls log(ftewap) c log(ftewap(-1)) gdpcycle kaitzadl mwdum01 d1 d2 d3 mwdumyouth kaitz1617 kaitz1819

freeze(zresultsfte4) zeqnfte4.LS

zresultsfte4.save(t=csv) zresultsfte4

equation zeqnfte5.ls log(fte/wapall) c log(fte(-1)/wapall(-1)) log(unemp/wapall) kaitzadl mwdum01 d1 d2 d3 mwdumyouth kaitz1617 kaitz1819

freeze(zresultsfte5) zeqnfte5.LS

zresultsfte5.save(t=csv) zresultsfte5

equation zeqnfte6.ls log(fte/wapall) c log(fte(-1)/wapall(-1)) log(empadl/wapadl) kaitzadl mwdum01 d1 d2 d3 mwdumyouth kaitz1617 kaitz1819

freeze(zresultsfte6) zeqnfte6.LS

zresultsfte6.save(t=csv) zresultsfte6

'==================================7) NZIER by sector Results======

equation zeqagri1617.ls empagri1617 empagri1617(-1) d1 d3 gdpagri(-1) kaitz1617 log(eragri1617)

freeze(zresultsagri1617) zeqagri1617.LS

zresultsagri1617.save(t=csv) zresultsagri1617

equation zeqagri1819.ls log(empagri1819) kaitz1819 log(gdpagri) d2 d1 trend c log(empagri1819(-1))

freeze(zresultsagri1819) zeqagri1819.LS

zresultsagri1819.save(t=csv) zresultsagri1819

equation zeqagri2024.ls log(empagri2024) log(gdpagri) kaitzadl d1 d3 log(empagri2024(-1)) log(eragri2024)

freeze(zresultsagri2024) zeqagri2024.LS

zresultsagri2024.save(t=csv) zresultsagri2024

equation zeqagrifemale.ls log(empagrifemale) log(gdpagri) kaitzadl d1 log(empagrifemale(-1)) d2 eragrifemale

freeze(zresultsagrifemale) zeqagrifemale.LS

zresultsagrifemale.save(t=csv) zresultsagrifemale

equation zeqagrimao.ls log(empagrimao) log(gdpagri) kaitzadl log(empagrimao(-1)) d3

freeze(zresultsagrimao) zeqagrimao.LS

zresultsagrimao.save(t=csv) zresultsagrimao

equation zeqagripac.ls log(empagripac) log(gdpagri) kaitzadl mwdum01 log(eragripac)

freeze(zresultsagripac) zeqagripac.LS

zresultsagripac.save(t=csv) zresultsagripac

equation zeqhos1617.ls log(emphos1617) log(gdphos) kaitz1617 c log(emphos1617(-1)) log(eragri1617)

freeze(zresultshos1617) zeqhos1617.LS

zresultshos1617.save(t=csv) zresultshos1617

equation zeqhos1819.ls log(emphos1819) log(gdphos) kaitz1819 d1 kaitz1819(-1)

freeze(zresultshos1819) zeqhos1819.LS

zresultshos1819.save(t=csv) zresultshos1819

equation zeqhos2024.ls log(emphos2024) kaitzadl log(gdphos) d1 log(emphos2024(-1))

freeze(zresultshos2024) zeqhos2024.LS

zresultshos2024.save(t=csv) zresultshos2024

equation zeqhosfac.ls log(emphospac) kaitzadl log(gdphos) log(emphospac(-1)) log(gdphos(-1))

freeze(zresultshosfac) zeqhosfac.LS

zresultshosfac.save(t=csv) zresultshosfac

equation zeqhosfemale.ls log(emphosfemale) kaitzadl log(gdphos) log(emphosfemale(-1))

freeze(zresultshosfemale) zeqhosfemale.LS

zresultshosfemale.save(t=csv) zresultshosfemale

equation zeqhosmao.ls log(emphosmao) kaitzadl log(gdphos) log(emphosmao(-1))

freeze(zresultshosmao) zeqhosmao.LS

zresultshosmao.save(t=csv) zresultshosmao

equation zeqretail1617.ls log(empretail1617) log(gdpretail) kaitz1617 trend d1 log(empretail1617(-1)) log(eragri1617)

freeze(zresultsretail1617) zeqretail1617.LS

zresultsretail1617.save(t=csv) zresultsretail1617

equation zeqretail1819.ls log(empretail1819) kaitz1819 d3 log(empretail1819(-1)) kaitz1819(-1) kaitz1819(-2) log(eragri1819)

freeze(zresultsretail1819) zeqretail1819.LS

zresultsretail1819.save(t=csv) zresultsretail1819

equation zeqretail2024.ls log(empretail2024) kaitzadl log(gdpretail) d3

freeze(zresultsretail2024) zeqretail2024.LS

zresultsretail2024.save(t=csv) zresultsretail2024

equation zeqretailfemale.ls log(empretailfemale) kaitzadl log(gdpretail) trend d3 d1 log(empretailfemale(-1)) log(empretailfemale(-2))

freeze(zresultsretailfemale) zeqretailfemale.LS

zresultsretailfemale.save(t=csv) zresultsretailfemale

equation zeqretailmao.ls log(empretailmao) kaitzadl log(gdpretail) log(empretailmao(-1))

freeze(zresultsretailmao) zeqretailmao.LS

zresultsretailmao.save(t=csv) zresultsretailmao

equation zeqretailpac.ls log(empretailpac) log(gdpretail) kaitzadl log(empretailpac(-1)) kaitzadl(-1)

freeze(zresultsretailpac) zeqretailpac.LS

zresultsretailpac.save(t=csv) zresultsretailpac

'=============8) saving results===========================

save MWEstimatesNZIER