



```

* VAT indirect effect:
import excel using "$xls_tool", sheet(IO) first clear
/***** Putting sector names as value label to sector number *****/
tempvar sect_num
egen `sect_num' = count(sector_name)
qui sum `sect_num'

local i = 0
forval z = 1(1)`r(N)' {
    local ++i
    local lbl = sector_name[`i']
    label define sect_name `i' "`lbl'", modify
}

label list sect_name
label val sector sect_name // assigning value labels
global sect_name: val`label sector // putting val label of sector var into glob
> al macro for later use

drop sector_name
*****

isid sector
mvencode VAT_rate_SY VAT_exempt_SY sect_*, mv(0) override // make sure that none of
> the coefficient is missing
gen double dp = - VAT_rate_SY
gen fixed = 1 - VAT_exempt_SY // all except exempted sector
    assert dp == 0 if fixed == 0

costpush sect_*, fixed(fixed) price(dp) genptot(VAT_tot_eff_SY) genpind(VAT_ind_eff_
> SY) fix

keep sector VAT_ind_eff_SY
isid sector
tempfile ind_effect_SY
save `ind_effect_SY', replace

* Import rates (for direct effect)
import excel using "$xls_tool", sheet(VAT) first clear
replace VAT_rate_SY = - VAT_rate_SY
keep exp_type sector VAT_rate_SY
isid exp_type
tempfile rates_SY
save `rates_SY', replace

*EXPENDITURES
use "${preSimulationData}\\02_${countryName}_${simulationName}_${cleanedSurveyData_e
> xp}_EXAMPLE.dta", clear

gen int exp_form = 2 - place_purchase
rename exp_value exp_gross_SY
/*
gen double total_exp = 0
foreach var in $exp_list {
    replace `var' = `var' / hhsize * hh_size // we adjust all expenditure variable t
> o match the actual hh size (rather than reported)
    replace total_exp = total_exp + `var'
}
*/

```

```
merge m:1 exp_type using `rates_SY', nogen assert(match)
merge m:1 sector using `ind_effect_SY', nogen assert(match using) keep(match)

gen double exp_net_SY = exp_gross_SY / (1 - exp_form * VAT_rate_SY) / (1 - VAT_ind_
> eff_SY)

isid hhID exp_type exp_form
keep hhID exp_type exp_form exp_net_SY exp_gross_SY
save "${simulationData}\04_${countryName}_${simulationName}_${exp_SY}.dta", replace
>
```