Fundamental Tax Reform

- Efficiency issues
  All organized around income tax vs. consumption tax.
- Actual reform plans
- Compliance: known problems with current system, unknown benefits from reform proposals.

Start with a general framework into which we can put:

t_c: consumption tax

t_y^L: income tax on wages & salaries, "labor."

t_y^I: income tax on interest earnings.

$$U(C_1, C_2, \lambda)$$

C_1 = consumption today

C_2 = consumption tomorrow

λ = leisure today
(so labor supply today)

(Forget about labor supply tomorrow).

Budget Constraint

Focus on consumption tax.

Identities:

No inheritance or bequests

$$Y_1 = w(24-\lambda)$$
$$C_1 = (1-t_c)\cdot(Y_1 - S)$$
$$C_2 = (1-t_c)\cdot(1+r)\cdot S$$

Derive budget constraint, eliminate Y_1 and S:

$$\Rightarrow C_2 = -(1+r)C_1 - (1-t_c)(1+r)w(24-\lambda)$$

Note: If you maximize utility subject to this,

$$\boxed{\begin{aligned} &C_1^*(w, 1+r, 1-t_c) \\ &C_2^*(w, 1+r, 1-t_c) \\ &\lambda^*(w, 1+r, 1-t_c) \end{aligned}}$$

In principle, all demand curves depend on all prices. In particular, leisure demand is affected by interest rate and consumption tax, and consumption is affected by the wage rate.

Now consider income taxes:

Identities:

$$Y_1 = w(24-\lambda)$$

$$C_1 = (1-t_y^L)Y_1 - S$$

$$C_2 = S + (1-t_y^I)\cdot r\cdot S$$

No inheritance or bequests

Budget constraint:

$$C_2 = -\left[1+(1-t_y^I)r\right]C_1 - \left[1+(1-t_y^I)r\right](1-t_y^L)w(24-\lambda)$$

Maximization would give:

$$\boxed{\begin{aligned} &C_1^*\left(1+(1-t_y^I)r,\ (1-t_y^L)\cdot w\right) \\ &C_2^*\left(\quad\cdot\quad\right) \\ &\lambda^*\left(\quad\cdot\quad\right) \end{aligned}}$$

Compare the constraints if $t_y^I = 0$ (no tax on interest earnings):

Constraint with income tax becomes:

$$C_2 = -(1+r)C_1 - (1+r)(1-t_y^L)\cdot w(24-\lambda)$$

The constraint with consumption tax was:

$$\Rightarrow C_2 = -(1+r)C_1 - (1-t_c)(1+r)w(24-\lambda)$$

① Tax on wages and salaries is identical to a tax on consumption!

Consumption is a lot like income since all income is eventually consumed.

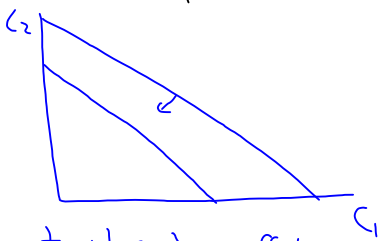
If someone inherits money, no longer true:

A wage tax raises no revenue from someone whose only income is an inheritance.

A consumption tax (tax on consumption spending) would raise revenue from this person.

② Intertemporal choice.

General claim, t_c has no effect on choice of C_1 versus C_2.



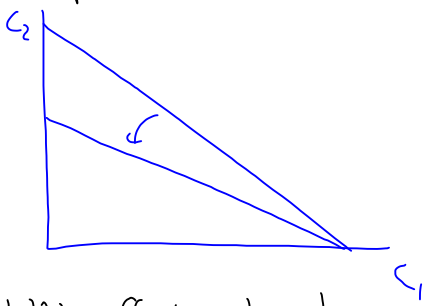
Increase t_c, only an income effect, no substitution effect.

Really only literally true taking X^* as fixed, unaffected by t_c.

Get same picture if talking about changing t_y^L. What about t_y^I?

$$C_2 = -\left[1+(1-t_y^I)r\right]C_1 - \left[1+(1-t_y^I)r\right](1-t_y^L)w(24-\lambda)$$

Changing t_y^I will affect the slope. Substitution effect, and that implies excess burden.



Substitution effect is toward more consumption today, less savings, and that is probably the dominant effect.

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(3) Leisure-income choice?

All will distort that.

Take consumption tax constraint, hold C_2 fixed.

$$\Rightarrow C_2 = -(1+r)C_1 - (1-t_c)(1+r)w(24-\lambda)$$

Rewrite it:

$$\Rightarrow C_1 = -(1-t_c)w(24-\lambda) - \frac{C_2}{1+r}$$

Consumption tax affects the leisure/consumption today choice.

$\therefore$ t_y^I also does this.

Earlier results, t_y^L obviously does this.

Consumption tax is not a lump-sum tax (obviously). It does distort leisure/income decision.

An empirical question whether the "two burdens" from the income tax (t_y^L, t_y^I together) are worse than the "one burden" from the consumption tax.

Conventional wisdom is, the consumption tax is less distorting.

Also, growth effects from not distorting C_1 vs. C_2 (extra savings) could be big.

Also an empirical question.

$\boxed{\text{Equity vs. efficiency}}$ but note, you can have a progressive consumption tax by imposing taxes on $\boxed{Y-S}$ at end of the year.

Also, horizontal equity with consumption taxes.

Present value of tax payments with consumption tax would be same for everyone, regardless of tastes.

Under consumption tax:

$$PV = t_c(Y_1 - S) + \frac{t_c\cancel{(1+r)}S}{\cancel{1+r}}$$

$$= t_c Y_1$$

Value of S is irrelevant.

Income tax:

$$PV = t_y^I Y_1 + \frac{t_y^I \cdot r \cdot S}{1+r}$$

Value of S matters.

Actual Reform Plans

-- What they are

-- Evaluation

* National Retail sales tax
* Value Added Tax
* The Flat Tax
* The USA Tax

National Retail Sales Tax

"Individual Tax Freedom Act of 2004" among others.

Supposed to be levied, like state sales taxes, on final goods only (not services), and various exemptions like food for home consumption, medicine, clothing, etc.

Value Added Tax

Sellers at each stage pay tax on "value added" at that stage.

Sales − Cost of material inputs
(purchases from other firms)
− Full cost of any new machinery

Sum over all steps of production, all industries, gives GDP.

Gives Investment = Savings

So you have $GDP - S = C$

VAT is tax on consumption.

The Flat Tax

Firms pay tax on:

Sales – material purchases
– machinery
– wages, salaries, pensions

People pay tax on:

Wages, salaries, pensions.

Businesses pay 19% rate on their base.

People get a big front end exemption ($25,500 in 1995 dollars) and then 19% on the rest.

USA Tax (Unlimited Savings Allowance Tax).

$Y - S$: tax base.

Keep track of this.

Apply progressive rates.