MACRO GRAD

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Lucas "Macro Priorities" AER 2003

What are the welfare gains from:

→ better LR supply-side policies?

→ better SR AD mgmt?

LR policies

→ Reducing annual inflation from 10% to 0% provides welfare gain equivalent to increase in perpetual consumption flow due to one percent increase in income

→ Reducing capital income tax to zero (from current US levels) w/ offsetting tax increases (so Gov't spend constant) would increase Kapital stock 30% to 60%

if $\alpha = 0{,}3$ and L and A constant then

$k \equiv \frac{K}{AL}$ k rises 30 to 60%

$c = (1-s)y$

$y = k^{\alpha}$

$(1-s)[k(1+0{,}3)]^{\alpha} = 1{,}08(1-s)k^{\alpha}$

$(1-s)[k(1+0{,}6)]^{\alpha} = 1{,}15(1-s)k^{\alpha}$

Taking transition costs into account Lucas estimates that 8% to 15% increase in SS consumption equivalent to welfare gain of 2% to 4% permanent increase in consumption

→ production per adult in France is 70% of US production per adult

hours worked per adult is 70% of US hours worked per adult

tax differences account for the entire difference in hours worked

so if France adopted US tax rates on labor and consumption, the SS welfare gain to French HH equivalent to a 20% increase consumption

"with no increase in work effort"

but aren't they working more hours?

Labor-Leisure Trade-Off

consumption depends on hours worked

utility a bn of consumption & leisure

consumption ↓ leisure

$$U = u(c, \ell)$$

24 hrs/day

$$c = (1 - \tau_c) w (24 - \ell)$$

↑ wage

↑ income tax rate

$$\mathcal{L} = u(c, \ell) + \lambda[(1 - \tau_c) w (24 - \ell) - c]$$

$$\left.\begin{aligned} \frac{\partial u(c,\ell)}{\partial \ell} &\equiv u_\ell = \lambda (1 - \tau_c) w \\ \frac{\partial u(c,\ell)}{\partial c} &\equiv u_c = \lambda \end{aligned}\right\} \text{1st O.C.}$$

$$\frac{u_\ell}{u_c} = (1 - \tau_c) w$$

so if you increase tax or reduce wage substitute out of consumption & into leisure

SR AD mgmt

→ Lucas then analyzes welfare gains from better demand mgmt

→ thought experiment → what if you could relieve single consumer of all consumption variability?

How much average consumption would he/she be willing to sacrifice in return (for relief from consumption variability)?

→ Lucas attempts to answer by equating

Expected utility of augmented but risky consumption path to utility along a consumption path with certainty

→ we'll take Lucas' word for it that λ, the necessary percentage increase, is:

$$\lambda \cong \frac{1}{2}\gamma\sigma^2$$

He must have taken Taylor-Series Expansion

$$\lambda \cong \frac{1}{2} \gamma \sigma^2$$

λ gives us the percentage decrease in consumption that willing to accept in exchange for consumption certainty

γ is the degree of risk aversion

σ^2 is variance of consumption around trend

So what does Lucas do?

→ the greater the degree of risk aversion the greater is λ

- Lucas says λ betw/n 1 and 4
- so he picks the low number
- that's problem #1

→ the greater the variance of consumption the greater is λ

- here's where the serious problems start

⇒ consumption is inherently less variable than income (when you lose your job you still consume) consumption smoothing

deviation from linear trend of: (1947-2008)	Sd	λ when γ=1	λ when γ=4
ln real GDP per capita	0,0431	0,09 %	0,37 %
ln real cons per capita	0,0357	0,06 %	0,25 %
ln real pers. inc. per capita	0,0593	0,18 %	0,70 %

But NOTICE those are AVERAGES

that's the deviation of ln real average cons from a linear trend

NOT everyone loses their job during a recession what makes people anxious is the threat of losing their job. because if you do, your standard of living is going to plummet.