INCOME OF TYPICAL VOTER

(1) \[ \frac{\text{Revenue}}{N} = \frac{\text{Own Gross Income}}{N} - 2 \gamma_i (\tau) \]

\[ \text{Total Gross Income} \]

\[ \text{Transfer from gov't} \]

(2) \[ \gamma_i (\tau) + 2 \gamma_i (\tau) - 2 \gamma_i (\tau) = \gamma_i (\tau) + 2 [\gamma_i (\tau) - \gamma_i (\tau)] \]

Notes:
- if i poorer than avg., likes \( \tau > 0 \)
- only one policy instrument, \( \tau \), transfer rate \( \tau \)
- Two Effects \( \tau \):
  - \( \tau \) gets larger slice of pie and pays more taxes
  - pie shrinks \( \frac{dy}{d\tau} < 0 \)
  - \( \frac{d^2 y}{d\tau^2} < 0 \)
  - \( \frac{d^2 y}{d\tau dy} < 0 \)

Revenue:
- Poorer is i, the greater the \( \tau \) before pie shrinkage
- offsets the bigger slice of pie in \( \tau [\gamma - \gamma_i] \)
- Can array voters from poorest to wealthiest in terms of desired \( \tau \)
- One D, voters arrayed left to right on it \( \Rightarrow \) MVT

\[ \max_{\tau} U = y_m (\tau) + 2 [\gamma_i (\tau) - y_m (\tau)] \Rightarrow \frac{\partial U}{\partial \tau} = 0 \]

\[ \frac{\partial U}{\partial \tau} = 0 \]
\[
\max_{\tau} U = \gamma_m(\tau) + \tau [\gamma(\tau) - \gamma_m(\tau)] \Rightarrow \frac{\partial U}{\partial \tau} = 0
\]

\[
\frac{\partial \gamma}{\partial \tau} = \gamma_m' + [\bar{y} - \gamma_m] + \tau [\gamma' - \gamma_m'] = 0
\]

\[
\tau_\star [\bar{y} - \gamma_m] = -\gamma_m' - [\bar{y} - \gamma_m]
\]

\[
\tau_\star = -\frac{\gamma_m'}{\bar{y} - \gamma_m} - \frac{1}{\bar{y} - \gamma_m} [\bar{y} - \gamma_m]
\]

Recall:
\[
\frac{\partial \gamma}{\partial y} < 0 \Rightarrow \bar{y} < \gamma_m < 0,
\]
so denominator negative

(Wealthy slow work & disinvest at greater rate than do poor as \(\tau \uparrow\))

\[
\tau_\star = a + b [\bar{y} - \gamma_m] \text{ with } a < 0 \text{ & } b > 0
\]

So \(\tau_\star\) increases as \([\bar{y} - \gamma_m]\) increases & skew in income distribution

As \(\gamma_m \leftarrow \text{rel. to } \bar{y}\), the more pie-shrinkage can occur before offsets \(\tau (\bar{y} - \gamma_m)\)
Participation & Redistribution:

1. We know that relatively wealthy people have a greater propensity to vote than relatively poor.

2. Therefore, provided when we compare city A with greater participation than city B, we know that more of A’s income distribution, increasing from right (wealthy) to left (poor), is voting than city B’s, assuming that other factors that affect q(vote) don’t fall too dissimilarly on poor vs. wealthy.

3. We also just saw that:
   Democratic Demand for Redistribution increases
   in Mean Citizen Income - Median Voter Income

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Effect:

- Effective Democratic Demand for Transfers depends on Row Skew \times \text{Participation Rate}

\[ \Rightarrow \text{We want empirical model in which:} \]

\[ \text{Transfers} = \ldots + b_3 \text{Skew} + b_4 \text{Partic} + b_5 \text{Skew Partic}. \ldots \]

Why? Because then:

\[ \left\{ \begin{array}{l}
\Delta \text{Transfers} = b_3 + b_5 \cdot \text{Partic}, \quad > 0 \\
\Delta \text{Skew} \\
\Delta \left( \frac{\Delta \text{Transfers}}{\Delta \text{Skew}} \right) = b_5 \\
\Delta \text{Partic}, \quad > 0
\end{array} \right. \]
\[ \Delta T_{t+1} = C \beta_1 + b_1 T_{t-1} + \ldots + b_2 V_{t-1} + b_3 R_{t-1} + b_4 V_{t-2} + R_{t-2} + \text{error} \]

\[ T_{t-1} - T_{t-1} = \text{controls effect} + b_1 T_{t-1} + b_2 V_{t-1} + b_3 R_{t-1} + b_4 V_{t-2} + R_{t-2} \]

\[ T_{t+1} = (1 + b_1) T_{t-1} + b_2 V_{t-1} + b_3 R_{t-1} + b_4 V_{t-2} + R_{t-2} + \text{error} \]

So:

\[ \frac{\Delta T_{t+1}}{\Delta \text{slow}_{t-1}} = b_2 + b_4 V_{t-1} = -0.328 + 1.14 V_{t-1} \]

\[ \frac{\Delta T_{t+1}}{\Delta \text{part}_{t-1}} = b_2 V_{t-1} + b_3 R_{t-1} = -0.369 + 1.14 R_{t-1} \]

**Figure I.5**

\[ T_{t+1} = (1 + b_1) T_{t-1} + \text{Effect}_{t-1} \]

\[ = (1 - 0.77) T_{t-1} + 0.77 \]

\[ = 0.23 T_{t-1} + 0.77 = 0.77 \]

\[ T_{t+1} = 0.94 \left[ 0.94 \left( 0.77 \right) + 0.77 \right] + 0.77 = 0.94^2 \times 0.77 + 0.94 \times 0.77 + 0.77 \]

\[ T_{t+2} = 0.94 \left[ 0.94^2 \times 0.77 + 0.94 \times 0.77 + 0.77 \right] = 0.94^3 \times 0.77 + 0.94^2 \times 0.77 + 0.94 \times 0.77 + 0.77 \]

\[ T_{t+0} = \sum_{k=0}^{\infty} \rho^k \times \text{Effect} = \left\{ \text{Effect} \right\} \times \sum_{k=0}^{\infty} \rho^k = \left\{ \text{Effect} \right\} \times \frac{1}{1 - \rho} \]

assuming OSP<1
Dynamic Effects (cont.)

LRSS take effect of permanent $\Delta X$ in:

$$y = \ldots + \rho y_{t-1} + x/\beta$$

$$= \sum_{t=0}^{\infty} \rho^t \times \beta(\Delta X)$$

$$= [1 - \rho]^{-1} \times [\Delta X]$$

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What if $\Delta X_0$ for one period, then $-\Delta X_0$, next period & then fixed?

- i.e., not permanent
- but one-period

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I.e., decay back to zero @ geom. rate $\rho$
Veto Actors & Delayed Stabilization of Public Debt

→ Eight or Nine Positive Political-Economy Thys Public Debt

→ Veto Actor & Delayed Stabilization Thry:

  as ↑ # & Polarization govs, policy-adjustment rate ↓

L→ "Veto Actor" Conception:

  ⇒ Any governing party = veto player
  ⇒ NoP
  ⇒ ADmG

→ Wid-Influence (Bargaining) Conception:

  ⇒ Governing parties have policy-making at proportional size
  ⇒ ENp
  ⇒ SDmG

Empirical Model

\[ \Delta D_t = \text{controls} + \rho_1 D_{t-1} + \rho_2 \times [r \times D_{t-1}] + \beta_1 \{ \text{Fract1} \times \text{Fract1} \} + \beta_2 \{ \text{Fract2} \times \text{Fract2} \} + \beta_3 \{ \text{Polar1} \} \]

Adjustment Rate:

\[ 1 + \rho_1 + \rho_2 \times r_1 + \beta_1 \{ \text{Fract1} \} + \beta_2 \{ \text{Fract2} \} + \beta_3 \{ \text{Polar1} \} \]

Hypoth: Adj. rate slower, so (↑) higher as Fract1 Polar1

Results: Adj. Rate = (1 - 0.0321 + 0.0033 r + 0.0129 NoP - 0.0025 ADmG)

  (0.006) (0.009) (0.0045) (0.0039)

See Figures