

## Miscellaneous notes on JIE R&R of SOP\_Repeated

Legislative constraint as a function of  $e$

- I thought it would be positive at  $e = 0$  and turn negative as  $e$  increases
- What does it mean that for some values it's negative at 0, becomes positive, and then goes negative again?
  - For sure I have to be careful in numerical examples

# Numerical examples

|                                |        |                |                |                |                 |
|--------------------------------|--------|----------------|----------------|----------------|-----------------|
| $\delta_L = \delta_{ML} = .95$ |        |                |                |                |                 |
|                                | E=.35  | E=.4           | E=.41          | E=.42          | E=.45           |
| $\tau^{tw}$                    |        |                |                | .074           | .0654           |
| $e^{tw}$                       |        |                |                |                | .00123          |
| T = 2                          |        | .07500         |                |                | .057407         |
| T = 3                          |        | .074716        | .070243        | .066284        | <b>.0570802</b> |
| T = 4                          |        | <b>.074708</b> | <b>.070233</b> | <b>.066275</b> | .0570806        |
| T = 5                          |        | .074795        | .07033         | .06638         | .057185         |
| T = 6                          | .1080  | .07492         |                |                |                 |
| T = 7                          | .1081  |                |                |                | .057            |
| T = 8                          | .10814 |                |                |                |                 |

I have another sheet of notes that conflicts with the first column. It just says “ $\delta = .95$ ”:

|             |                 |
|-------------|-----------------|
|             | E=.35           |
| $\tau^{tw}$ | .1213           |
| $e^{tw}$    | .006003         |
| T = 3       | .1023044        |
| T = 4       | <b>.1022411</b> |
| T = 5       | .1022427        |
| T = 6       | .10227          |
| T = 7       | .102305         |

This one just says “ $\delta = .99$ ”:

|             |                |               |
|-------------|----------------|---------------|
|             | E=.4           | .39           |
| $\tau^{tw}$ |                |               |
| $e^{tw}$    |                |               |
| T = 2       | .068510        | .06391        |
| T = 3       | <b>.068261</b> | <b>.06374</b> |
| T = 4       | .068289        | .06378        |
| T = 5       | .06841         | .06391        |

This has the note, “This at least works in the direction I thought it would” with “ $\delta_L = .94$ ,  $\delta_{ML} = .95$ ”:

|             |               |
|-------------|---------------|
|             | E=.4          |
| $\tau^{tw}$ |               |
| $e^{tw}$    |               |
| T = 4       | .07464        |
| T = 5       | <b>.07421</b> |
| T = 6       | .07481        |
| T = 7       | .07492        |

(“Really want to know if reducing  $\delta_L$  — making future term less important — will give me the  $\sigma$  result I’ve been after; really, no result at all; depends on other parameters.)

Some summaries

- $E = .4$ ,  $\delta_L = .99$ ,  $\delta_{ML} = .95$ ,  $e_{tw} = .00232$ ,  $\tau^{tw} = .08185$ . Optimal  $\tau^a = .07494$  at  $T = 3$ .
- $E = .5$ , assume I kept  $\delta_L = .99$ ,  $\delta_{ML} = .95$ . Optimal  $\tau^a = .04864$  at  $T = 3$ .
- $E = .4$ ,  $\delta_L = \delta_{ML} = .99$ ,  $e_{tw} = .00232$ ,  $\tau^{tw} = .08185$ . Optimal  $\tau^a = .07470$  at  $T = 3$ .
- $E = .4$ ,  $\delta_L = .99$ ,  $\delta_{ML} = .5$ ,  $e_{tw} = .00232$ ,  $\tau^{tw} = .08185$ . Optimal  $\tau^a = .07802$  at  $T = 2$ .
- $E = .4$ ,  $\delta_L = .99$ ,  $\delta_{ML} = .75$ ,  $e_{tw} = .00232$ ,  $\tau^{tw} = .08185$ . Optimal  $\tau^a = .07629$  at  $T = 3$ .