

# 1 Update - Oct 16th 2021

## 1.1 Long-run NPV multipliers table

The table shows  $NPVM(\infty)$ .

Experiment	no AD effects	AD = 0.5	AD = 0.5 (1st round)
Payroll tax cut	0.93(1)	1.20(1.28)	1.11(1.18)
UI extension	0.95(0.98)	1.58(1.74)	1.39(1.51)
Check	0.93(0.97)	1.54(1.62)	1.34(1.40)

Table 1: Long-run multipliers for new calibration (old calibration)

New discount factors:

DiscFacMeanD : 0.96971 Mean intertemporal discount factor for dropout types

DiscFacMeanH : 0.98628 Mean intertemporal discount factor for high school ty

DiscFacMeanC : 0.98764 Mean intertemporal discount factor for college types

DiscFacSpread : 0.00981 Half-width of uniform distribution of discount factors

Old discount factors:

DiscFacMean : 0.986 Mean intertemporal discount factor

DiscFacSpread : 0.0183 Half-width of uniform distribution of discount factors

# 2 Update - Aug 4th 2021

## 2.1 Experiments

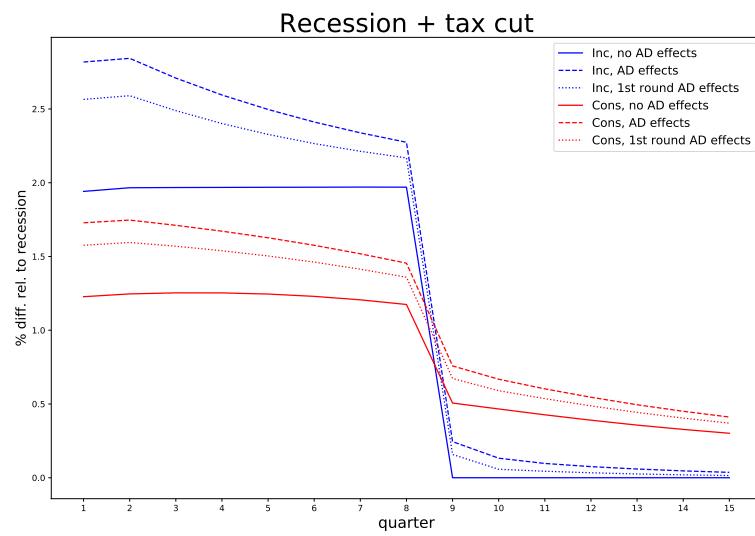


Figure 1

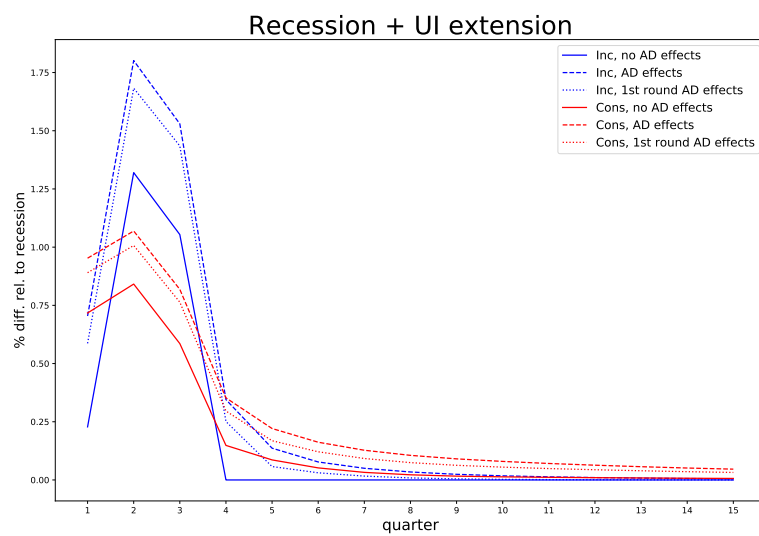


Figure 2

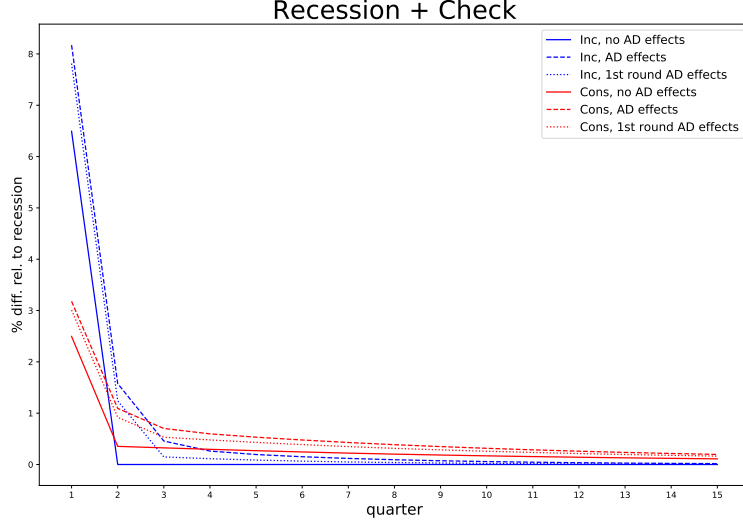


Figure 3

## 2.2 Multipliers

We can look at three different multipliers

1. Period multiplier: The ratio of additional consumption to policy expenditures at a certain point in time

$$PM(t) = \frac{\Delta C(t)}{\Delta G(t)} \quad (1)$$

where  $\Delta X(t)$  is the difference in the variable  $X$  between the no-policy and policy scenario at time  $t$ .

*Useful to investigate at which point in time a policy is most effective*

2. Net present value multiplier: The ratio of the NPV of additional consumption to the NPV of policy expenditure up to a certain point in time.

$$NPVM(t) = \frac{NPV(t, \Delta C)}{NPV(t, \Delta G)} \quad (2)$$

where the net present value of a variable  $X$  at horizon  $t$  is given by

$$NPV(t, X) = \sum_{s=0}^t \left( \prod_{i=1}^s \frac{1}{R_i} \right) X_s \quad (3)$$

*Useful to investigate at which horizons the policy becomes effective*

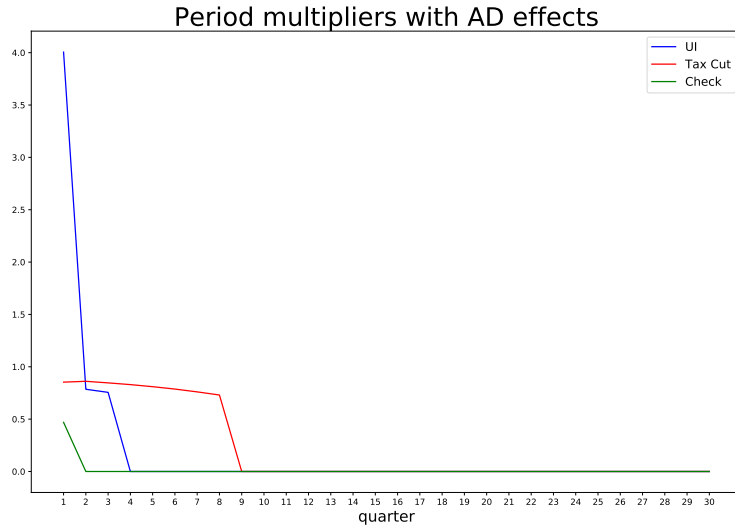


Figure 4

3. Cumulative multiplier: The ratio of the NPV of additional consumption up to time  $t$  to the infinite-horizon NPV of policy expenditure

$$CM(t) = \frac{NPV(t, \Delta C)}{NPV(\infty, \Delta G)} \quad (4)$$

*Useful to investigate when additional consumption occurs*

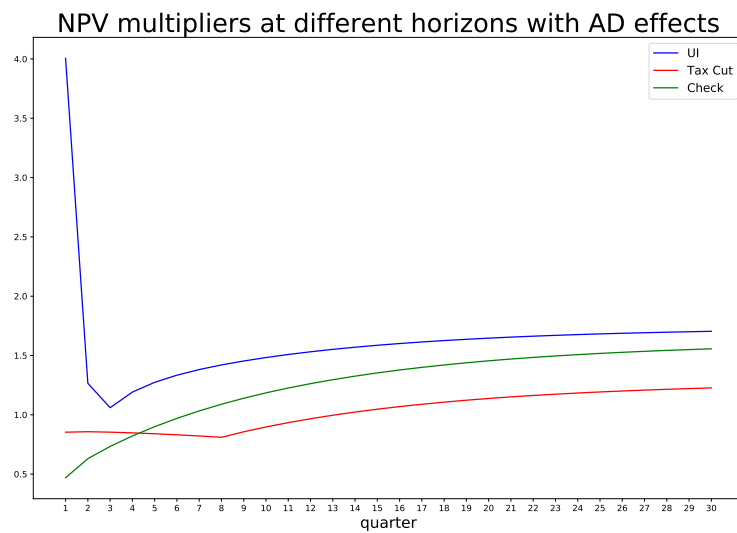


Figure 5: Net present value multipliers at horizon 1 (impact multiplier) to 30

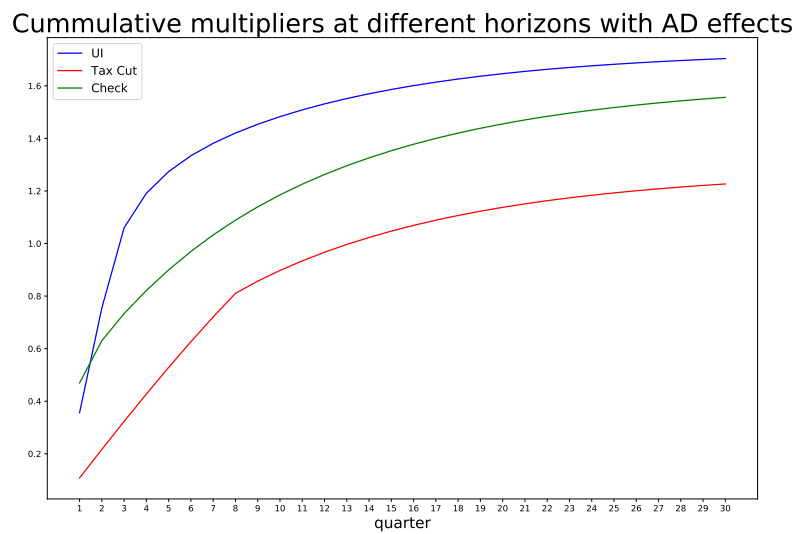


Figure 6

### 2.3 Long-run NPV multipliers table

The table shows  $NPVM(\infty)$ .

Experiment	no AD effects	AD = 0.5	AD = 0.5 (1st round)	AD = 0.25	AD = 0.75
Payroll tax cut	1	1.28	1.18	1.10	1.58
UI extension	0.98	1.74	1.51	1.30	2.42
Check	0.97	1.62	1.40	1.23	2.25

Table 2: Long-run multipliers