Case 1:

Two states: initial, finished

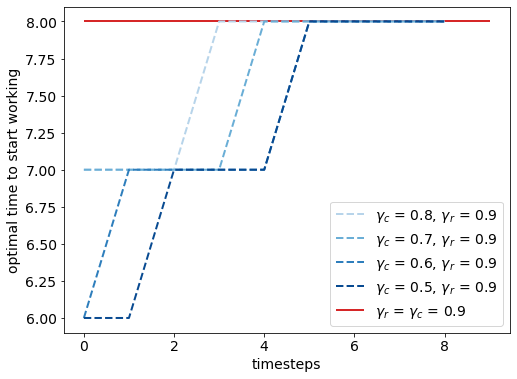
Actions: DO or DON’T in initial state, no choice in finished state

Rewards: effort cost for DO, reward for finished state with a delay at the deadline (no distraction rewards). This is a minimal version of the first case we discussed previously.

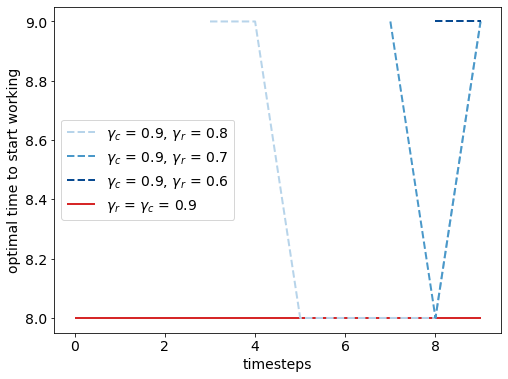
Transitions: Probability of completing on Doing

Parameters: reward\_completed = 4, effort\_do = -1, efficacy = 0.7

When γcost = γreward, there is only planned procrastination. When γcost < γreward, there are defections (to delay more than what was planned) due to preference reversals:



When γcost > γreward, there is the opposite kind of reversals where the agent starts earlier than initially planned or starts despite planning on abandoning.



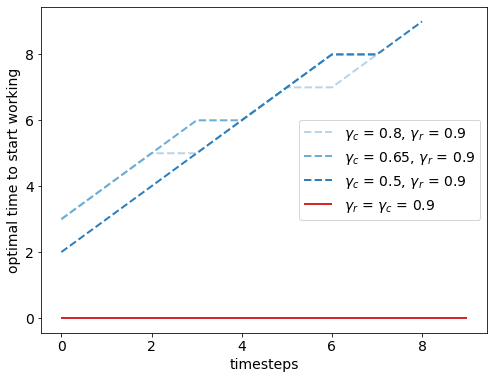
Case 2:

Almost the same as case 1 but immediate rewards on completing instead of delayed rewards.

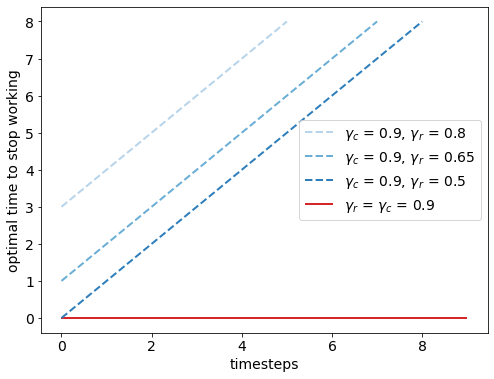
Parameters: reward\_completed = 1.5, effort\_do = -1, efficacy = 0.7

When γcost = γreward, there is no procrastination at all (always optimal to work)

When γcost < γreward, there are planned delays but only with small-ish rewards (with big rewards, it is always worth working despite differential discounting). On top of this, there are defections to delay more than planned before. The reversals are more dynamic here compared to case 1, because reward is also immediate.



When γcost > γreward, it becomes better to stop working after a point. There are then reversals to stop later than planned.



Case 3:

A common hyperbolic discounting scenario with