

ECO2404 Problem Set 1

January 30, 2026

Question 1.)

3.

(a)

i.

ii.

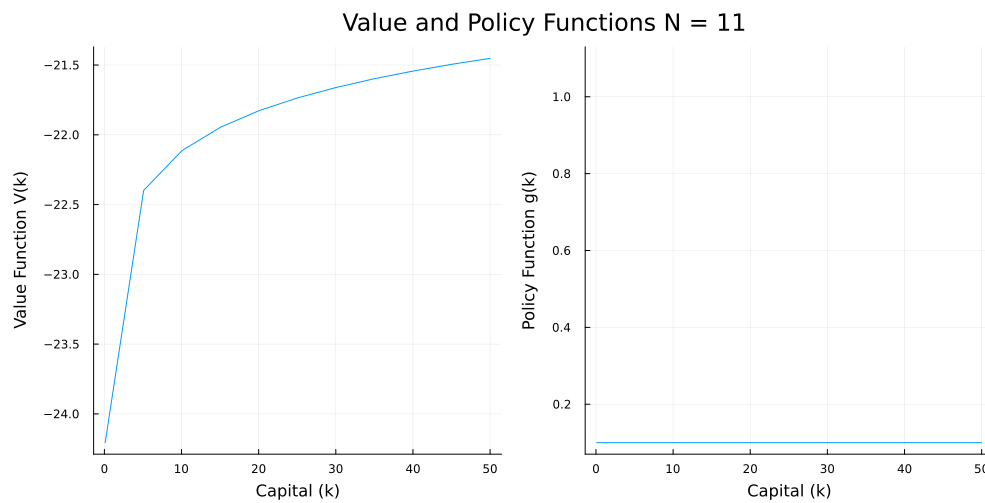


Figure 1: Value and policy functions, $N = 11$.

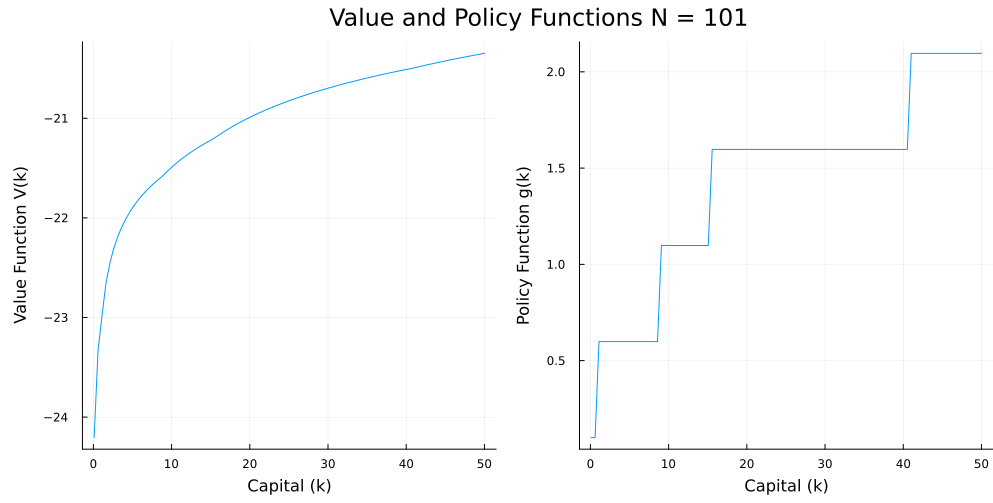


Figure 2: Value and policy functions, $N = 101$.

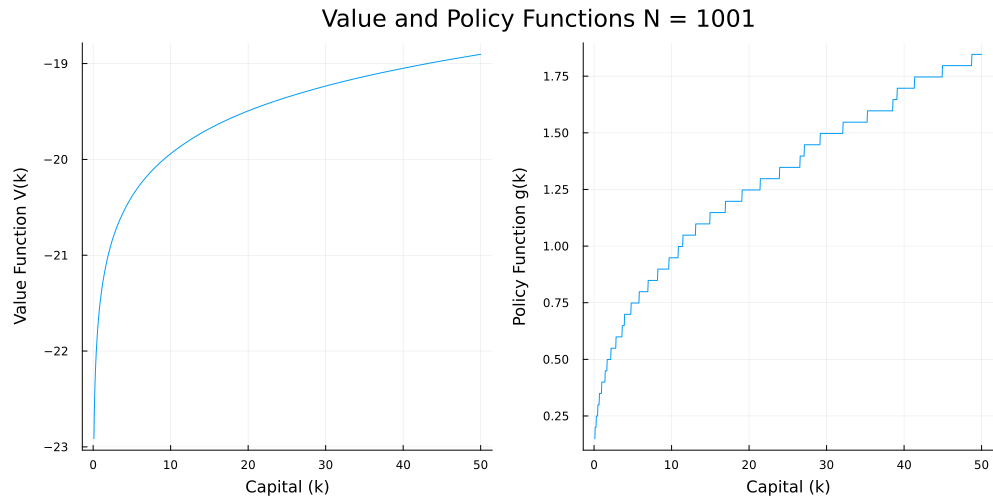


Figure 3: Value and policy functions, $N = 1001$.

(b)

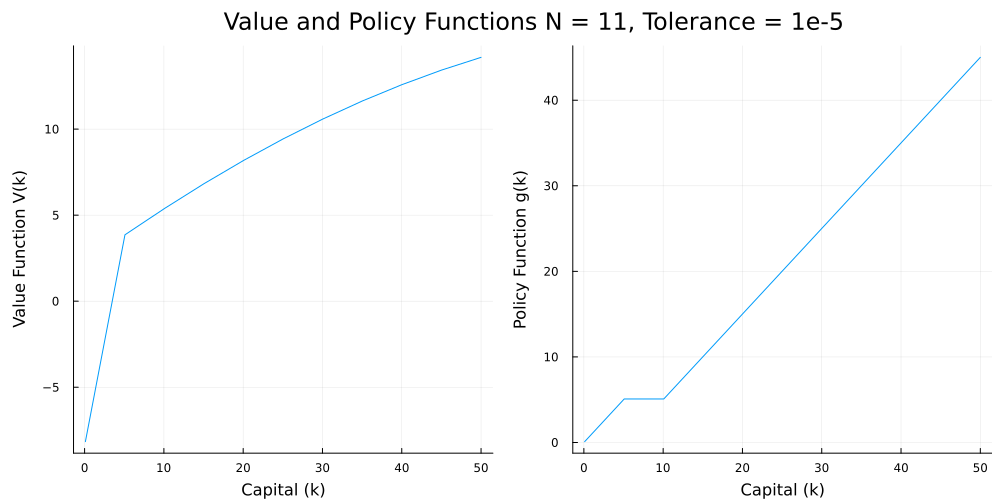


Figure 4: Value and policy functions, $N = 11$, tolerance 10^{-5} .

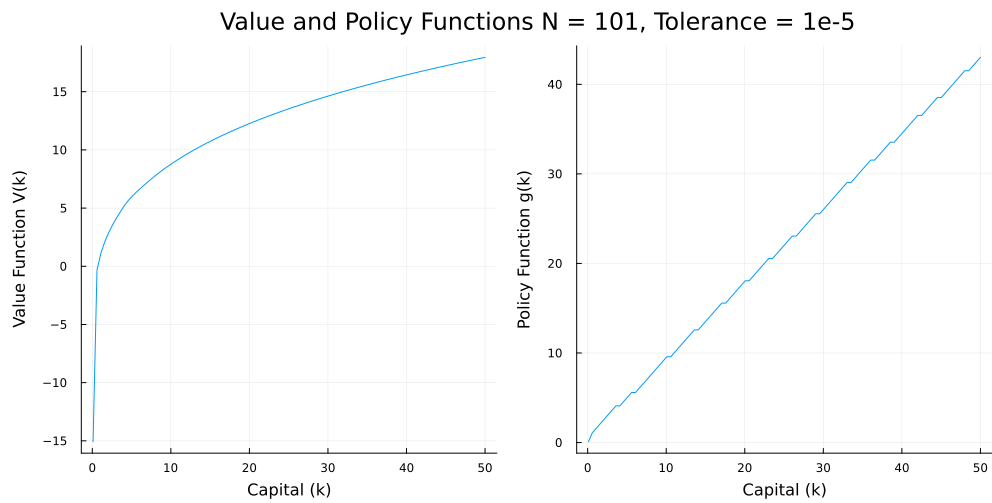


Figure 5: Value and policy functions, $N = 101$, tolerance 10^{-5} .

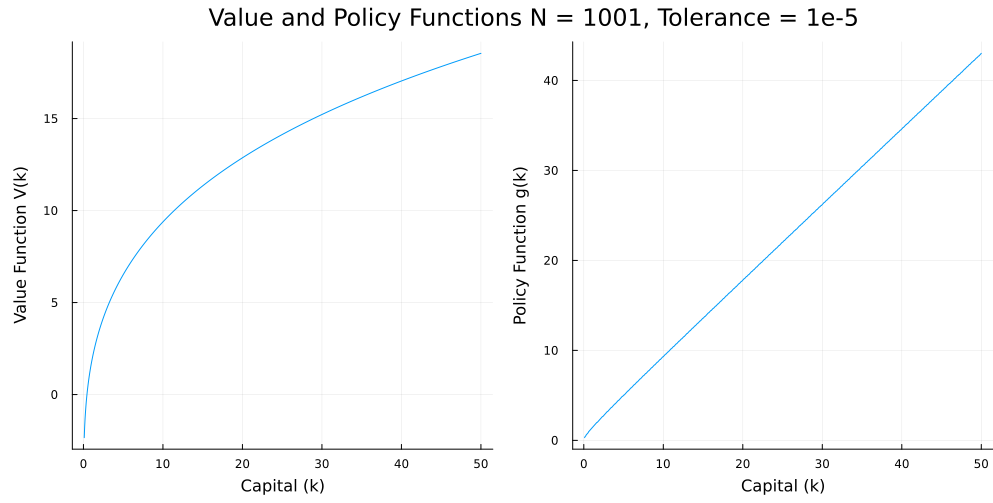


Figure 6: Value and policy functions, $N = 1001$, tolerance 10^{-5} .

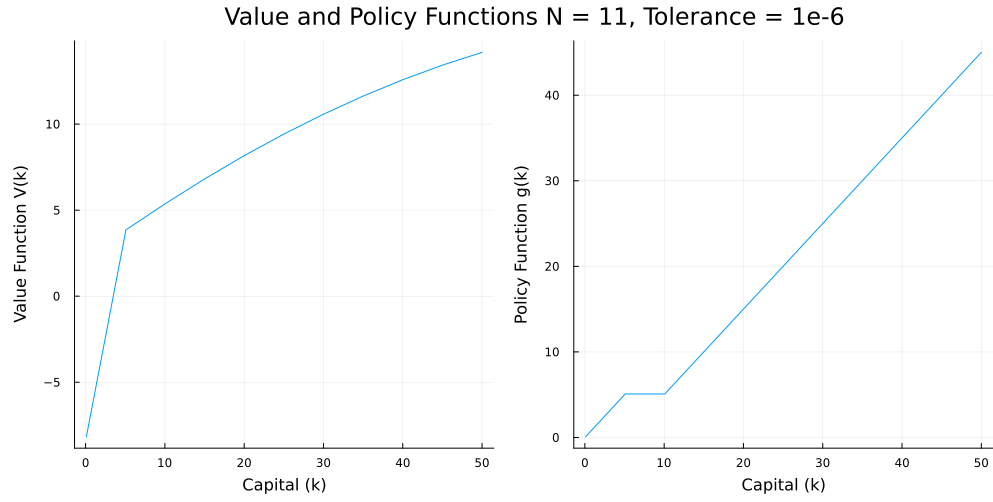


Figure 7: Value and policy functions, $N = 11$, tolerance 10^{-6} .

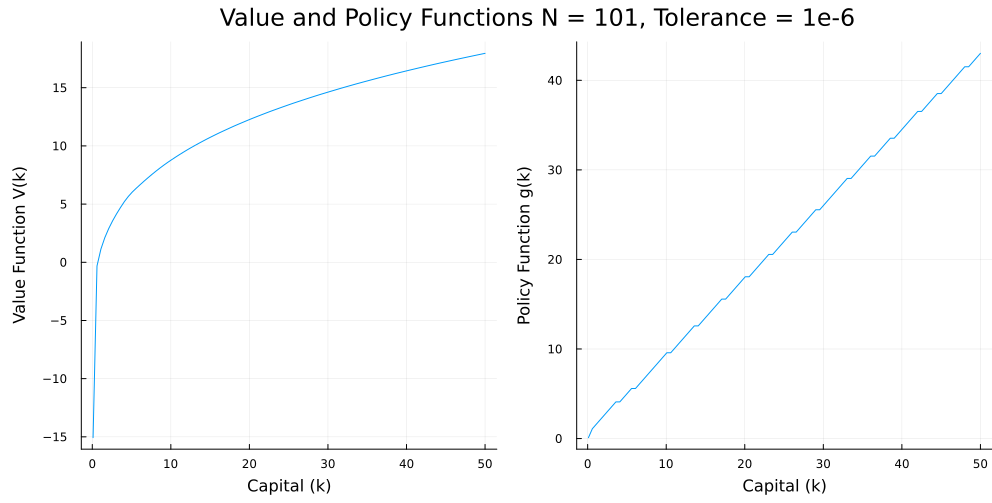


Figure 8: Value and policy functions, $N = 101$, tolerance 10^{-6} .

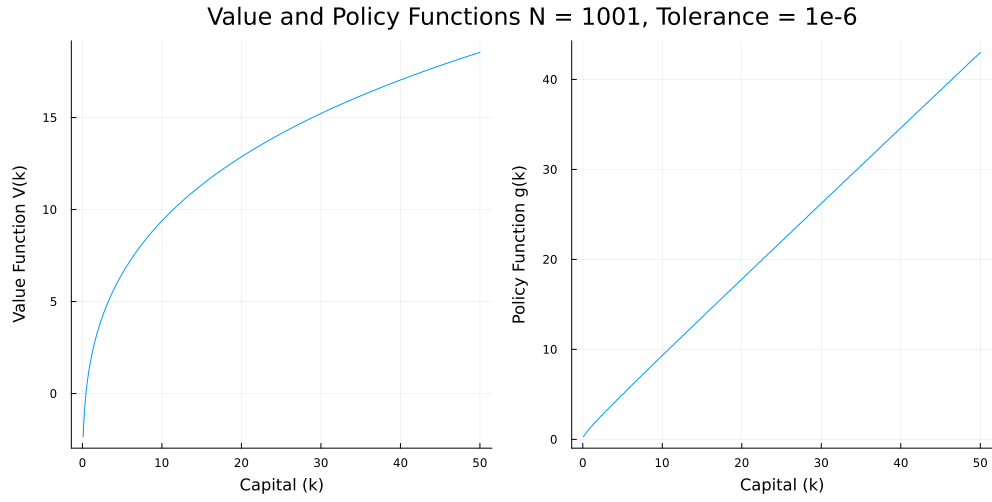


Figure 9: Value and policy functions, $N = 1001$, tolerance 10^{-6} .

(c)

i.

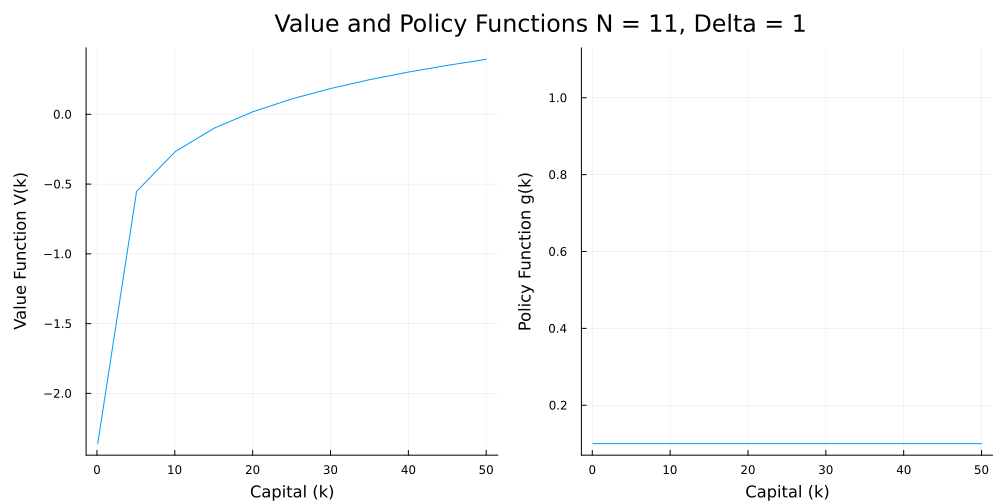


Figure 10: Value and policy functions, $N = 11$, $\delta = 1$.

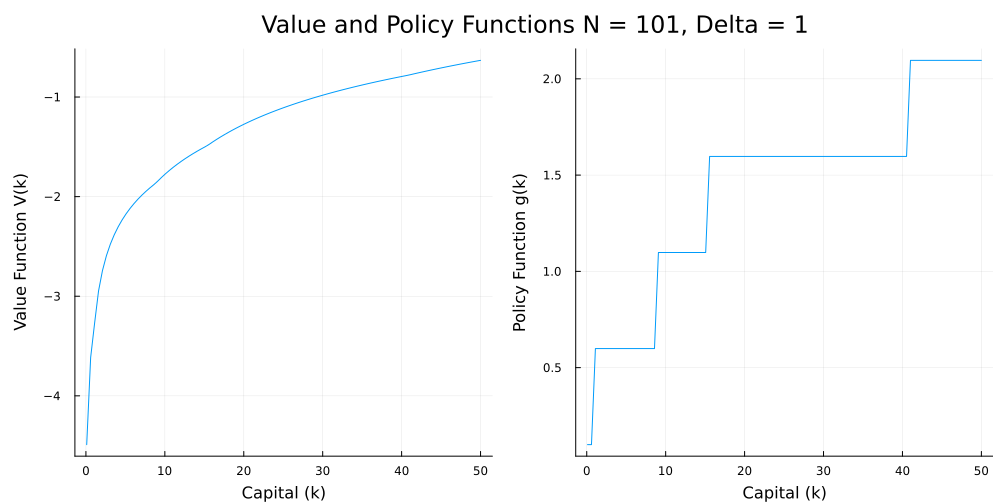


Figure 11: Value and policy functions, $N = 101$, $\delta = 1$.

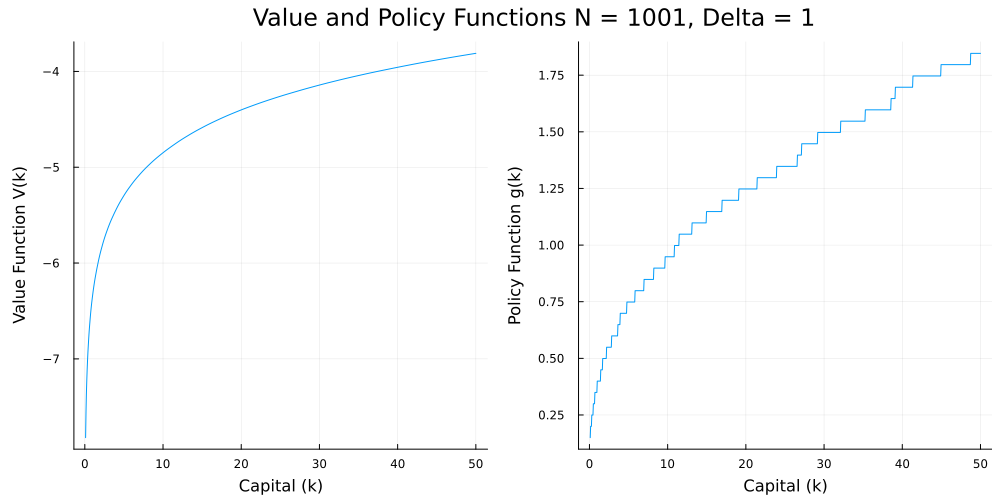


Figure 12: Value and policy functions, $N = 1001$, $\delta = 1$.

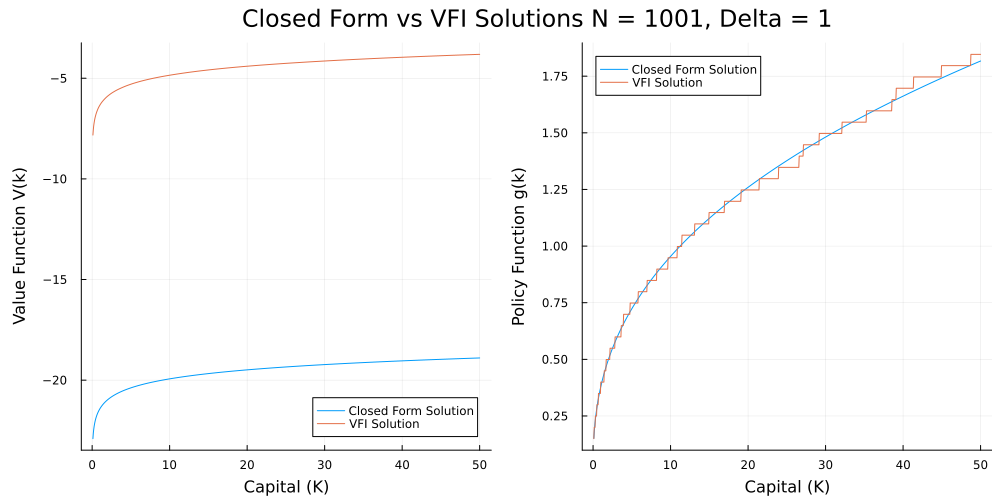


Figure 13: Closed-form vs VFI solutions, $N = 1001$, $\delta = 1$.

ii.