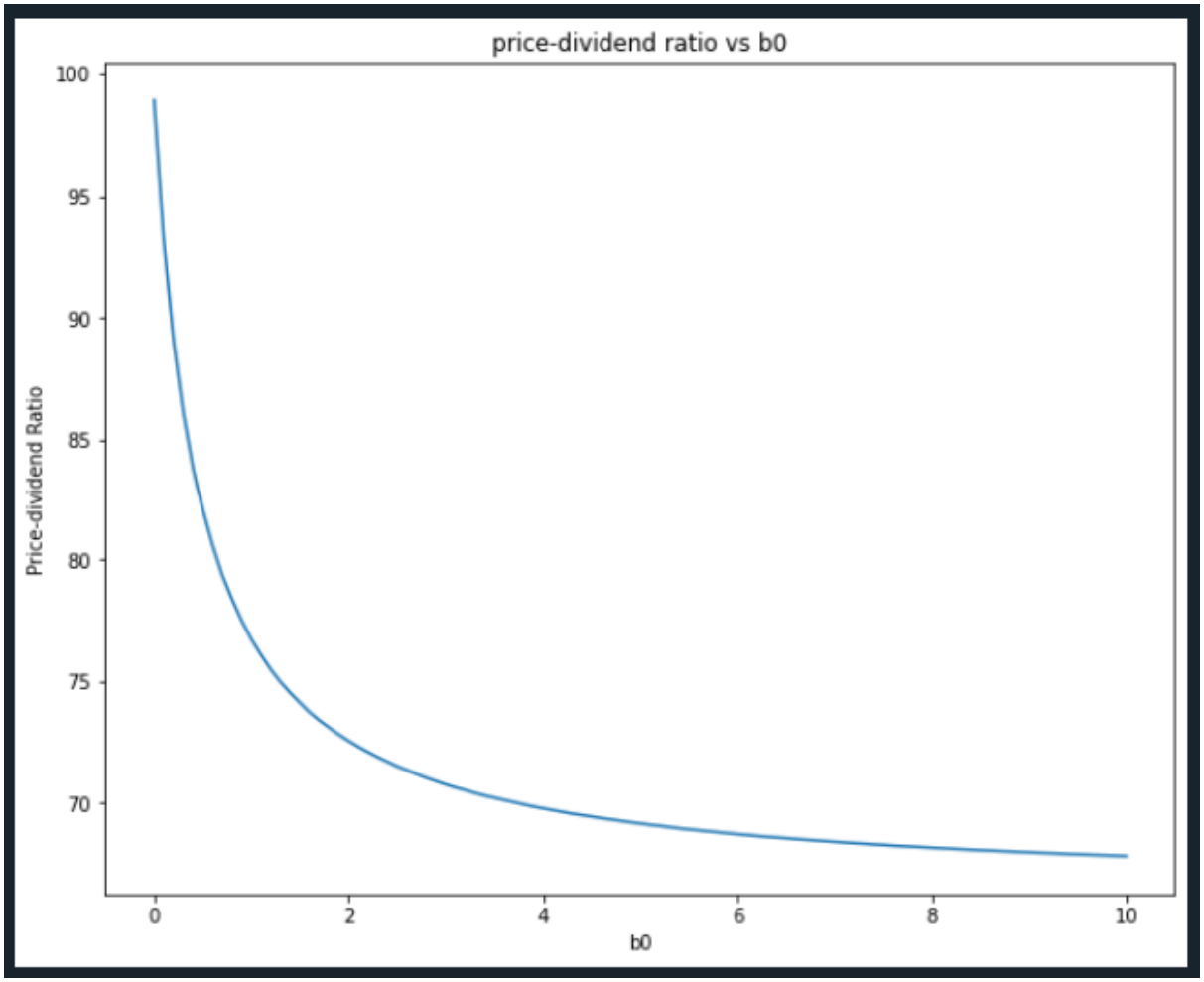
Calculate the equilibrium values of x for b_0 in the range from 0 to 10, in increments of 0.1 (or less), using bisection search:

	b0	Equilibrium value of x
0	0.0	1.010107
1	0.1	1.010730
2	0.2	1.011218
3	0.3	1.011609
4	0.4	1.011926
..	...	...
96	9.6	1.014731
97	9.7	1.014734
98	9.8	1.014737
99	9.9	1.014740
100	10.0	1.014743

Use the equilibrium value of x to calculate the price-dividend ratio for the market portfolio:

	b0	Equilibrium value of x	Price dividend_ratio
0	0.0	1.010107	98.937198
1	0.1	1.010730	93.196815
2	0.2	1.011218	89.140370
3	0.3	1.011609	86.140904
4	0.4	1.011926	83.848516
..	...	...	...
96	9.6	1.014731	67.884815
97	9.7	1.014734	67.870754
98	9.8	1.014737	67.856699
99	9.9	1.014740	67.842650
100	10.0	1.014743	67.828607

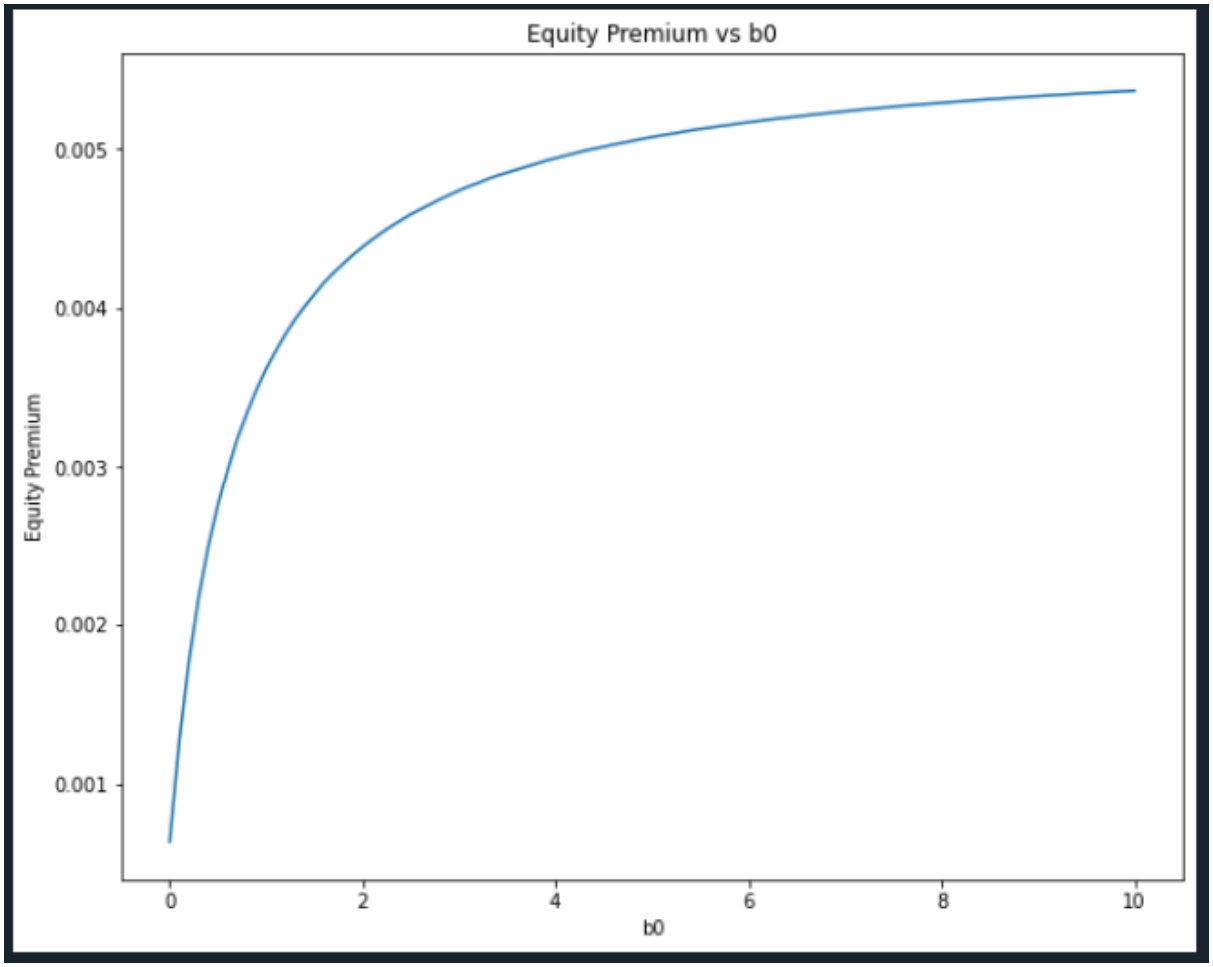
and plot the price-dividend ratio (on the vertical axis) vs b_0.



Use the equilibrium value of x to calculate the expected market return:

	b0	Equilibrium value of x	Expected Market Return
0	0.0	1.010107	1.030936
1	0.1	1.010730	1.031571
2	0.2	1.011218	1.032069
3	0.3	1.011609	1.032468
4	0.4	1.011926	1.032792
..	...	...	...
96	9.6	1.014731	1.035654
97	9.7	1.014734	1.035658
98	9.8	1.014737	1.035661
99	9.9	1.014740	1.035664
100	10.0	1.014743	1.035667

and plot the equity premium (on the vertical axis) vs b_0.



Briefly explain the economic significance of the investor's utility function for recent financial gain or loss [v(R)], as well as the economic significance of b_0 and λ.

Infinitely lived investor receives time-separable utility from individual consumption as well as recent financial gain or loss. Recent financial gain or loss is measured relative to reference level based on risk-free rate. Loss aversion makes investor more sensitive to shortfall in financial gain (or outright financial loss). v(R) represents gain or loss of utility from financial gain or loss.
b0 ≥ 0 determines amount of emphasis investor puts on utility from financial gain or loss, vs utility of consumption. Equity premium will increase with b0, as investor puts more emphasis on utility from financial gain or loss. Annual equity premium is 0.06% for b0 = 0 and 0.91% for b0 = 2 and converges to 1.2% as b0 → ∞. Equity premium of 4.1% per year for b0 = 2, when λ rises by one for every 2% shortfall in value of investment in risky stock. δ = e−ρ ∈ (0, 1) is subjective discount factor and γ > 0 b0 is scale factor so that utility of consumption remains comparable in magnitude to utility of financial gain or loss is coefficient of relative risk aversion for consumption shocks.